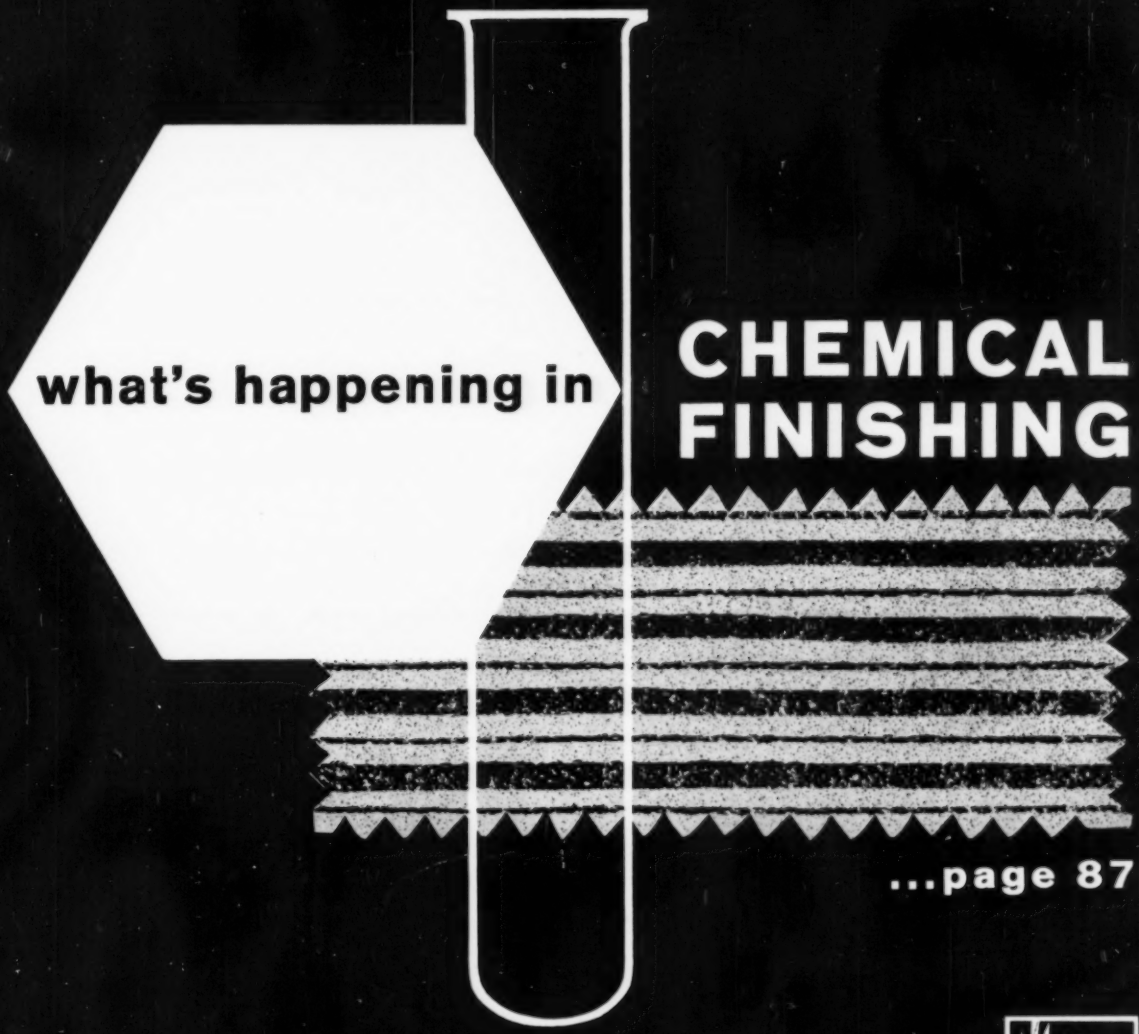
Textile World
NOVEMBER, 1939
A McGRAW-HILL PUBLICATION

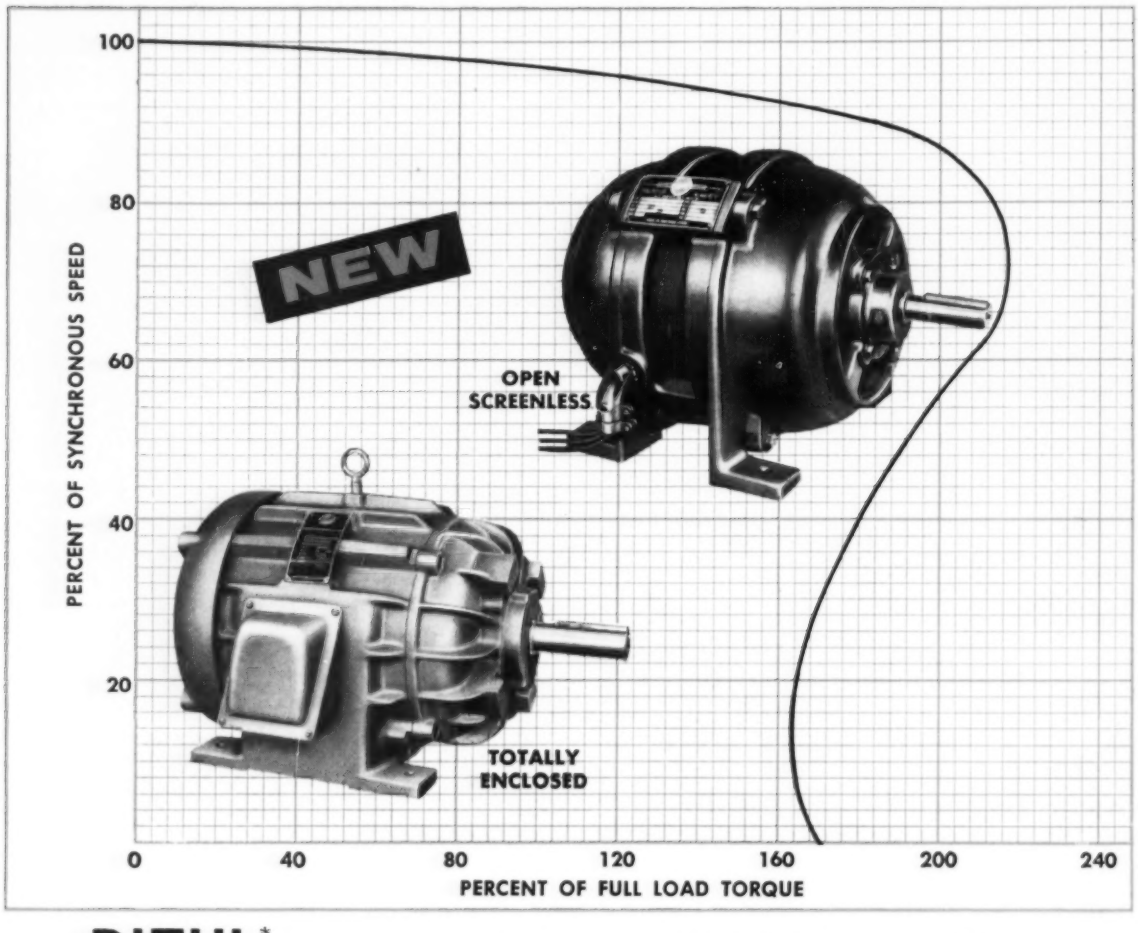


what's happening in CHEMICAL FINISHING

...page 87

MILAN SHOW REPORT
page 51

BUILDING-MATERIAL COSTS
page 68



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This Month in TEXTILE WORLD November, 1959

Volume 109, No. 11

BUSINESS

Textile Business Continues Its Late Profitable Levels 3
Noncellulosics Wage Second Battle of the Fibers 3
Egypt Frees Cotton From Soviet Barter 5
Tufted Textiles up 25% Over 1958 7
Textile-Imports Control Still a Simmering Pot 7
India and Pakistan To Limit Exports to Britain 8
Mill Sales and Profits Continue at Good Level 9
Department-Store Sales Run 7% Ahead of 1958 9
TEXTILE WORLD's Index and Monthly Indicators 10

MANAGEMENT

Shopping the World for Equipment (Editorial) 47
One Good Way To Help Our Colleges and Universities 49
Building-Materials Costs for Plant Construction 68
Rio Grande Produces Good Crop of 1959 Cotton 71
Giving 'Em the Bad News 131

SPECIAL FEATURE—Report on the Milan Show 51

. . . CARDING — **Cotton Card Is Undergoing Change.** Elimination of flats, use of peralta roll, and tandem arrangement of cards are the new directions 53

. . . DRAWING — **Late Trends in Drawing Continue.** Large frame construction, high speed, and big delivery cans highlight drawing frames 55

. . . LAPPING, COMBING — **Cotton-System Lappers and Combers Speeded Up.** Improvements also aim at simpler operation and better quality of combed sliver 56

. . . PREPARATORY DRAFTING — **Wool Drafting Gets Better Control.** Autoleveller is now used on more wool-drafting equipment. 57

. . . ROVING — **Several Frames Have New Drafting Systems.** A trend toward larger roving packages is also evident 57

. . . SPINNING — **Space-Saving Narrow Construction Is Strong Trend.** Cotton and wool frames are nearly all narrower, and direct spinners now eliminate cans 58

. . . TWISTING, WINDING — **Higher Speeds, More Flexibility Mark Twisters and Winders.** New machines include tubeless-package winder and eight-spindle traveling winder 59

. . . WARPING, TYING — **Labor Reduction Attained in New Machines.** Big-package creel for warping and an electronic tying-in machine save production time 61

. . . WEAVING — **Shuttleless Looms Make Strong Hit.** Four models by four manufacturers demonstrate different ways to eliminate shuttle 61

. . . KNITTING — **New Developments Are Limited.** Milan show came too soon after the Atlantic City show in April. 64

. . . FINISHING — **Automatic Screen Printers Dominate.** Six manufacturers show different printers ranging up to 24 colors 64

. . . ELECTRONIC CONTROLS — **Wide Use of Electronics Evident.** Main uses are for defect control and process control. 67

Please turn the page

CHEMICAL TREATMENT AND FINISHING

Section Contents Page 81
Textile Chemicals 83
New Dyes and Chemicals 86
Highlights From the 8th Chemical-Finishing Conference 87
38th Annual AATCC Convention 95

DEPARTMENTS

. . . MANAGEMENT
Editorial 47
Pointers for Supervisors 131
Textile Business 3

. . . TECHNICAL
Kinks & Short-Cuts 133
Mill Maintenance 187
Questions & Answers 20
Textile Chemicals 83

. . . NEW PRODUCTS
Equipment & Supply News 157
Fibers, Yarns, Fabrics 147
New Dyes and Chemicals 86
New Literature 166

. . . NEWS
News About Men 194
News About Mills 17
News About Suppliers 190
Obituary 196

. . . GENERAL
Calendar 18
Reader Service 205
Advertisers' Index 204

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TEXTILE WORLD, Henry G. Lord founder. Published monthly, with an additional issue in July, by McGraw-Hill Publishing Co., Inc. PUBLICATION OFFICE: 99-129 North Broadway, Albany 1, N. Y. See panel below for directions regarding subscriptions or changes of address. **EXECUTIVE, SUBSCRIPTION, AND ADVERTISING OFFICES:** 330 West 42nd Street, New York 36, N. Y. **EDITORIAL OFFICES:** 201 East Coffee Street, Greenville, S. C., and 330 West 42nd Street, New York 36, N. Y.

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SUBSCRIPTIONS are solicited only from executives, engineers, chemists, and technicians in textile manufacturing companies and finishing plants. Position and company connection must be indicated on subscription order. Single copies $1.00. Subscription rates: United States and Possessions and Canada, $2.00 a year; all other countries, $20.00 a year. Second-class postage paid at Albany, N. Y. Printed in U. S. A.

SUBSCRIPTIONS: Address correspondence and change of address to Fulfillment Manager, TEXTILE WORLD, 330 West 42nd Street, New York 36, N. Y. When address is changed, subscribers should give old as well as new address, including postal zone number. Enclose recent address label if possible. Allow one month for change to become effective.

Postmaster . . . Please send form 3579 to Textile World, 330 W. 42nd St., New York 36, N. Y.

TEXTILE BUSINESS

Textile World

NOVEMBER • 1959

Textile Business Continues Its Late Profitable Levels

Textile business roared on at its late dizzy pace last month, with signs for next year's business still running good.

• **Commitments for the second quarter of 1960** rolled in at satisfactory rates for most cloth constructions, although there were some laggards still selling for first-quarter delivery.

• **Profit margins remained good,** with margins on print cloths taking another step upward as bellwether 39-in. 80-square hit 20½¢, compared to 17¾¢ a year ago, and cotton going at 31.65¢ a lb. for 1-in. Middling (14-market average), compared to 34.74¢ a lb. a year ago.

• **Carded-yarn inventories** were down to less than one week's production at the beginning of last month, compared to two week's production at the same time last year.

• **Total mill sales** were holding steady at about industry capacity, remaining above the $15-billion annual rate that has held throughout the summer and fall.

•

There are no strong signs so far that the two-year cyclical decline generally expected will set in at the turn of the year.

In late summer, forward commitments faltered; and there is some fear that the steel strike and its consequent slow-down in the auto industry will have an effect on consumer buying. But so far no firm signs of a downturn have shown up. Forward buying resumed again after the change of season, and prices continue to hold firm and even advance.

But signs of a leveling off in the rise in business are multiplying.

On TEXTILE WORLD's Index (p. 10), the chart line of mill activity is leaning more to the right than it did in the first half of 1959 and much more than it did in the last half of 1958. And mill sales have leveled at slightly above the $15-billion annual rate.

These are indications that the increase in business is slowing down.

But that is an inevitable occurrence. Business is about at industry and sales-outlets capacity. So long as it remains somewhere near present levels at present margins, mills have little to worry about.

Noncellulosics Wage Second Battle of the Fibers

Noncellulosic man-made fibers are causing the greatest surge of activity ever experienced in the textile-fiber field.

In late months a host of market researchers have been probing the textile market, trying to assess the chances for still another fiber. In some cases, they're trying to find ways to get a stalled fiber moving again.

WORLD BRIEFS . . .

U. S. Says French Are Dumping Rayon

WASHINGTON — The Treasury Dept. ruled last month that rayon staple is being "dumped" in the U. S. market at unfair prices by French producers and referred the case to the Tariff Commission to determine if the U. S. industry is being hurt by it.

If the Tariff Commission finds that there has been injury, it will raise the tariff duties on the fiber from France.

But the Treasury at the same time rejected charges that dumping is being done also by Belgium, Italy, and West Germany. It held that the prices of staple from these countries are not unfair.

•

Russia Orders High-Speed Combers

LONDON—A Soviet order for cotton-spinning machinery valued at $700,000 was announced last month by Platt Bros. (Sales) Ltd., a subsidiary of Stone-Platt Industries Ltd. The contract chiefly is for Hartford high-production combers. Deliveries will start early next year.

•

Austria's Export Margin Drops Sharply This Year

VIENNA—Austria's traditional margin of textile exports over imports narrowed sharply during the first quarter of 1959. Foreign textile trade netted only $2,730,800 in the first half of this year, compared to $6,884,600 during the first half of 1958.

•

New Sardinia Cotton Mill

MILAN—A new cotton mill, called Cotonificio S. Efisio di Elmas, has gone into operation near Cagliari, in Sardinia. With an initial processing capacity of 20 metric tons a month, the plant will run cotton produced on the island itself.

•

U. S. Finances Modernization Of Pakistan Cotton Mills

KARACHI—The U. S.-financed Pakistan Industrial Credit and Invest-

Picking up the tabs are a number of chemical, rubber, and oil companies with fibers on their hands, some of them largely as by-products, but with little or no textile experience under their belts.

The goal of most of the newcomers is to get 1% of the 4.5-billion-lb. market now filled by cotton. This year that would amount to some 45-million lbs. or, at only 35¢ a lb., over $1.5-billion in fiber sales. Other hopefuls are eyeing the wool or nylon market.

The immediate spur is the tempting growth of noncellulosic fibers. From almost nothing before World War II, nylon grew to 304-million lbs. last year and should hit 350-million to 360-million lbs. this year. From nothing at the end of World War II, acrylics should hit 155-million to 165-million lbs. this year.

●

Glowing predictions of continued growth of the noncellulosics fill the air.

In late September, between 200 and 300 members of the Chemical Market Research Assn. met at Williamsburg, Va., to talk things over. The consensus was that the noncellulosics will double their half-billion-pound shipments by 1965.

That could add up to the total increase of all textile fibers. For the 18 years 1940-58, total fiber consumption averaged about 6-billion lbs. a year. For the last 38 years, 1920 through 1958, consumption increased by an average of about 2% a year. That rate would give an increase of some three-quarters of a billion pounds by 1965 and allow some growth for cotton, rayon, and acetate.

But growth "on average" is a sticky thing. Nearly all the 38-year growth in fiber consumption occurred in two or three years at the start of World War II, and for the last several years consumption has been below the last 18-year average.

If total fiber consumption increases, the noncellulosics will increase with it. If the total doesn't increase, the noncellulosics will have to displace cellulosics and wool in order to grow.

●

But the noncellulosics, with half a billion pounds a year, have now reached the point of scrapping with each other.

Present nylon, with 60% of the noncellulosics market, is being nipped at by new types of nylon. One producer is reported to have 17 different types of nylon. And the present big potential for the coming polypropylenes is the present market of nylon.

The polypropylenes have strong factors in their favor: cheap raw materials, a possible resin price of 30¢ to 35¢ a lb., and properties said to be equal to or similar to nylon for many uses.

So the "battle of the fibers," relatively quiet for several years now since rayon, acetate, nylon, the polyesters, and the acrylics found their markets, is now raging again. In this second phase of the battle it is largely man-made against man-made, and more particularly noncellulosics against each other.

●

Three big hurdles face the newcomers to the fiber business:

• Time and money

The usual running time for developing a fiber and putting it on the market is about six years. That involves laboratory research, pilot production, mill evaluation, market evaluation,

plant building, promotion, customer service, and sales.

These things add up to big money, millions of dollars, before the first dollar of return shows up.

• Competition

The total need for textile fiber is now being met. The job of a newcomer is to persuade mills to change to its fiber from a fiber it is already using. Against the Du Ponts, American Viscoses, Celaneses, etc., who grew up with the man-made-fiber business and who penetrate it wherever fiber is used, and in an industry as competitive as the textile industry, competition is fierce.

• Know-how and attitude

Chemicals, rubber, and oil are not the same world as textiles. Several companies entering the fiber business have found their toughest job to be developing a state of mind and a staff that could operate effectively in the fiber business. Many millions of dollars and much time have gone down the drain because a newcomer has tried to operate in the fiber business as it operated in its primary field.

•

But the potential is so great that great risks and great amounts of money are justified.

The total bill for fiber in the U. S. runs into several billion dollars a year, a sales potential worth going after.

If noncellulosics do hit 1-billion lbs. a year, at a price considerably above the price of cotton, that alone adds up to a considerable amount of business.

So this second battle of the fibers not only will go on; it will get more intense for the next few years.

Egypt Frees Cotton From Soviet Barter

BEIRUT—Egyptian authorities have taken a number of steps to free their foreign trade, particularly in long-staple cotton, from overdependence on Soviet-bloc trade.

Egyptian cotton experts say the measures were taken to "return to a more natural form of trade exchanges, regain confidence of foreign mills in Egypt's main export [cotton], and boost the position of the Egyptian pound."

The measures include:

- Lifting the export tax on long-staple and medium-staple cotton to make Egyptian cotton competitive in free world markets
- Gradual lifting of subsidies and discounts to help stabilize world cotton prices
- Banning re-export of Egyptian raw cotton, yarn, and textile products through closer supervision of export contracts and ports of destination
- Banning barter transactions, carried on mainly with Soviet countries to swap cotton for military equipment and capital goods
- Continued maintenance of farm-price supports by fixing the minimum price at which the state Cotton Committee will buy

ment Corp.'s grants in aid to approved enterprises reached $10-million by the end of August.

Most of the commitments have gone to the textile industry, which so far has received $2,450,000 in foreign exchange and the equivalent of $1,300,000 in local currency from the corporation. Most of this money has been committed for balancing and modernizing textile mills already existing.

•

British Fiber Company To Help Build Plant in Poland

LONDON—Britain's Imperial Chemical Industries Ltd. and two Polish foreign-trade organizations, Polimex and Textilimport, have signed an agreement in Warsaw covering manufacture and sales of ICI's Terylene polyester fiber.

Under terms of part of the agreement, Polimex will purchase ICI know-how and license for the construction of a polyester-fiber plant in Poland. Plans are to have the plant on stream sometime during 1963.

The second part of the deal calls for a supply of polyester fiber to Textilimport from 1960 through 1964. In 1960, ICI will supply 750 tons of the fiber to Poland. This amount will rise substantially until the Polish plant is in full production.

The fiber will be marketed in Poland under the name Elana.

This agreement is the first that ICI has concluded with a Communist country, although for the past two years the company has been negotiating a similar pact with the Soviet Union. But no agreement on price can be reached, ICI says.

•

Pakistan Industry Is Expanding

KARACHI—Pakistan will expand her textile capacity by 300,000 spindles and 3,000 looms at an estimated total cost of $18-million in the next few years.

This expansion is part of Pakistan's over-all target of textile-industry expansion during her Second Five-Year Plan period from 1960 to 1965.

•

Egypt Sets 10-Year Target For Textile-Industry Growth

CAIRO—Egypt will be able to process half her cotton crop within the next 10 years by doubling her present production of cotton yarn and textiles, according to Aziz Sidki, minister of industry.

Egyptian spinners now process between 25% and 30% of the crop. This year, they will consume 237.6-million lbs. of cotton, valued at about $60-million.

Since the industrial drive of recent years, Egypt has become self-sufficient in cotton yarns and fabrics and is exporting the surplus. Sidki estimated the value of cotton yarn and textiles to be exported during the 1959-60 cotton season at nearly $50-million, compared to estimates of $22-million at this time last year.

•

Cotton Mills in Italy Still in Recovery Stage

MILAN—Italy's cotton-yarn mills are slow in snapping back from the 1958 textile recession, according to 1959 first-half figures released by the Italian Cotton Assn.

From the first half of 1957 to the first half of 1958, production of yarn dropped 7.2%—from 110,246 metric tons to 102,800 metric tons. In the first six months of this year, production regained only about 2%, rising to 104,311 metric tons.

But there was a significant drop in stocks on hand. For the three periods stocks were: 1957, 77,236 metric tons; 1958, 80,564 metric tons; and 1959, 64,934 metric tons.

•

Czechs Plan To Increase Textile-Machinery Output

VIENNA—Output of Czech textiles increased 5% during the first half of 1959 compared to the same period of 1958, according to the Czechoslovakian Chamber of Commerce.

The Czech machine industry during the same period increased output by 17% for heavy machines and 19% for general-engineering equipment.

Plans for the next few years call for greater textile-machinery production for the local market. During the next five years, $27.2-million will be invested in works for manufacturing textile machinery. In addition to specialized shops for the production of gearwheels and component parts made of plastics, whole new factories will be built.

•

Japan's Textile Exports Go Chiefly to Asia

NEW YORK—The largest shipments of Japanese cotton yarn went to

the 1959-60 crop from farmers

- Reorganization of the Cotton Exporters Assn. in Alexandria to enforce standards in grade and variety
- Opening of new promotion offices for Egyptian cotton in the free countries
- Developing new varieties and grades of long-staple cotton to meet competition from man-made fibers.

•

Banning the barter system in export and re-export operations is expected to hit trade with the Soviet Union's European satellites especially. Egyptian economic experts now feel their country's relations with Western countries have improved sufficiently to free their nation's basic export commodity, the cotton crop, from slavish submission to Soviet-bloc trading practices, such as dumping, re-exports, delayed deliveries, etc.

Egyptians admit that they resorted to barter operations with the Soviet bloc only as a stop-gap expedient before and after the Suez crisis, when Egypt lost most of her Western markets and used her cotton crop to acquire arms and capital goods that she could not get from the Western countries.

Bartering served its purpose while it lasted, Egyptians say, but restricted the choice of purchases from abroad, priced Egyptian cotton out of Western markets, and played havoc with the value of the Egyptian pound.

Egyptians do not want to put all their eggs in the Soviet basket. They have to diversify their markets. To regain the confidence of their former markets, they have to put their export trade in order.

•

Reorganization of the Cotton Exporters Assn. in Alexandria is expected to clean up Egypt's export trade. Every cotton exporter must be a member of the Association and is liable to penalty clauses for violation of export regulations.

A government representative will be in the association. All arbitration between exporters and foreign spinners as to quality, grade, and terms of contracts will take place in Alexandria by a commission of experts presided over by a government representative.

Every cotton deal with a foreign firm will have to be made through a unified Egyptian contract and strictly observe regulations of the Exporters Association. These regulations are said to be the same as those of the former Exporters Association and are familiar to spinners abroad.

To eliminate cut-throat competition among exporters, a Joint Export Fund has also been set up.

•

Egyptian authorities are trying to reduce the country's dependence upon cotton in their foreign trade. Some years ago, raw cotton represented 90% of Egypt's foreign trade. It is now down to 75% and may soon constitute only 60%.

Although raw-cotton exports during the past cotton year were the highest in 10 years, there is a surplus carry-over of about 250,000 bales. To eliminate stocks, the government has reduced authorized cotton acreage this season from 1,904,949 acres to 1,760,287 acres.

On the other hand efforts are being made to boost yarn exports to both Soviet-bloc and Western countries. Egypt is expected

to export 32,000 tons of yarn and 8,000 tons of textiles valued at about $50-million in 1959.

To help exports of both raw cotton and cotton textiles to Western countries, the government instituted a new schedule of export premiums. Beginning Sept. 7, exports of cotton, cotton yarn, and cotton fabrics and made-up goods receive 29.03% premium against payment in Western currencies.

Tufted Textiles Up 25% Over 1958

Shipments of tufted textile products in the first half of this year were 25% above shipments in the first half of 1958, the U. S. Dept. of Commerce reports.

In the first six months of this year, shipments amounted to $214.7-million, compared to $171.6-million in the same period last year.

Shipments in the last half of 1958 were $210.3-million, making a 1958 total of $381.9-million.

Rugs and carpeting accounted for $187.8-million of the $214.7-million worth of tufted products shipped in the first half of this year, an increase of 26% over shipments of $148.8-million in the first half of last year.

In square yards, shipments in the first six months of this year amounted to 63,853,000, compared to 50,792,000 in the first six months of 1958.

Yarns used this year in rugs and carpeting amounted to:

Cotton	24,125,000	(lbs.)
Rayon and acetate	45,403,000	
Wool	20,585,000	
Other yarns	15,227,000	

Backing fabric for rugs and carpeting amounted to:

Cotton duck	11,116,000	(lbs.)
Cotton sheeting	1,011,000	
Jute	33,747,000	

Textile-Imports Control Still a Simmering Pot

WASHINGTON—Here's how the cotton-imports-control hassel stands this month:

Hong Kong

A program to control cotton-textile exports from Hong Kong to the U. S. may be announced late this month or early next month.

U. S. officials are still predicting such a program, although textile interests in Hong Kong strongly oppose it. Henry Kearns, Commerce Dept. assistant secretary for international affairs, who has been informally negotiating a voluntary control program similar to Japan's, says he expects the announcement to come at about the time of the General Agreement on Tariffs and Trade (GATT) meetings in late November and early December.

Indonesia and Burma, and the largest shipments of Japanese cotton cloth went to Hong Kong and Australia, the Japan-U. S. Textile Information Service announced last month.

Of 6,469,743 kilograms of cotton yarn exported from Japan to 59 countries, 1,793,305 kilograms went to Indonesia and 1,672,610 kilograms went to Burma. The United States received 3,366 kilograms.

Of 579,877,784 square meters of cotton cloth exported from Japan to 128 countries, 53,533,794 square meters went to Hong Kong and 53,077,137 square meters went to Australia.

Other large shipments went to the United States (52,163,123 sq. m.), Thailand (49,849,263 sq. m.), Indonesia (28,396,632 sq. m.), Phillipine Republic (26,442,621 sq. m.), Singapore (23,436,173 sq. m.), and the United Kingdom (20,713,163 sq. m.).

On a continental basis, Asia remained the largest customer of Japanese cotton textiles. Over 92% of all cotton yarn and over 51% of all cotton cloth exported by Japan went to Asiatic countries. Largest Asiatic customers were Burma, Ceylon, Hong Kong, Indonesia, Iran, Phillipine Republic, Singapore, South Viet Nam, and Thailand.

•

Italian Silk Exports Rise

MILAN—Italy sold 33,100 kgs. of coarse silk abroad in August, compared to 24,400 kgs. exported in July and 20,050 kgs. exported in August of last year, the Italian National Silk Institute says.

From January to August of 1959, Italy exported 196,500 kgs. of silk, as against 102,050 kgs. exported during the same period of 1958.

Top client was Switzerland, which purchased 15,500 kgs. of Italian silk in August. The U. S., with 11,700 kgs.; Germany with 4,700 kgs.; France with 800 kgs.; Holland, the United Kingdom, and Argentina with 100 kgs. each; and Austria with 50 kgs. followed in that order.

•

Czechs Announce Several Textile-Machine Developments

VIENNA — Stepped-up activity in textile-machinery developments is revealed in the number of claims coming out of Czechoslovakia.

In late weeks, the Czechs have announced these developments:

• Plastic shuttles, shuttleboxes, and filling quills said to reduce loom

stops and cut the costs of hardwood products

- A ribbon-bleaching machine that uses sodium-chlorite bleach, replaces up to eight workers per shift, bleaches 400,000 meters of ribbon per 8 hrs., and reduces bleaching costs 21%
- A cotton-stapling device for arraying cotton fiber
- A double-deck twister for man-made-fiber yarns
- A continuous heat-crimping machine for man-made-fiber yarns
- A hydroextractor said to be adaptable for drying stock, yarn, or fabric
- A ring spinning frame for flax
- A tow-converter machine
- An automatic jig for bleaching, dyeing, or washing
- An automatic pirn winder.

•

Britain's Reorganization Plan Is Hindered by Good Business

LONDON—Britain's $84-million cotton-textile-industry reorganization scheme is being hindered by "opportunists" prepared to upset the timing of the project for the sake of quick profits, the U. K. Cotton Board Conference at Harrogate, Lancashire, was told last month.

Prominent Cotton Board members stated that several firms slated to close down were still working full schedules to take advantage of the current upsurge of cotton orders.

Deadline date for scrapping of plant under the government-sponsored reorganization scheme is March 31 next year. But the way some firms are operating, it's feared there'll be a sudden spate of closures around the deadline date, with employment problems concentrated in a tight period.

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U. S. Silk Imports Swing to Heavier Yarns

TOKYO—Japan's exports of silk to the U. S. this year will amount to $104-million. By types of products, the exports will amount to—

Silk fabrics	$43.0 (million)
Raw silk	41.5
Scarves, etc.	17.0
Silk yarn	2.5
	$104.0-million

United States

Agriculture Secretary Benson had taken no action on the pleas by the National Cotton Council and others to restrict cotton-textile imports on the grounds that they are hurting the U. S. cotton program as this issue of TEXTILE WORLD went to press.

Benson has not been in sympathy with the pleas for controls and has delayed any kind of action on them. Agriculture's interest is in raw cotton and the cotton farmers' markets, not textiles and not U.S. mills. The early position of the Department was that the case of imports damaging over-all cotton sales could not be proved.

Japan

Japanese textile mills are as unhappy with Japan's 1959 export agreement with the U. S. as U. S. mills are; and last month Takasi Muryama, research director of the All-Japan Cotton Spinners Assn., leading Japanese textile-industry trade group, said Japanese mills want their U. S. quota pushed up again.

Muryama discounted the importance of Hong Kong as an exporter. He pointed out that Hong Kong's industry is composed of only some 400,000 spindles, "less than some single mills in the U. S. operate." And Red China's exports are now limited by Peiping's relaxation of domestic rationing.

Japan therefore sees no justification for the U. S. to impose controls such as the National Cotton Council has requested.

India and Pakistan To Limit Exports to Britain

LONDON—The British cotton-textile industry finally got its agreements on cotton imports with India and Pakistan last month. The pacts are the result of three years of negotiations, during which cheap cotton textiles from Asia have been flooding this country.

Under the terms of the agreements, the ceiling figure for imports from India is 175-million sq. yds. and from Pakistan 38-million sq. yds. The agreement becomes effective Jan. 1, 1960.

Both figures are higher than the current levels of imports from these two countries. Cloth shipments from India are running at an annual rate of 144-million sq. yds. and from Pakistan 14-million sq. yds.

At the beginning of this year, the British Cotton Board obtained an agreement with Hong Kong to limit cotton-cloth imports from the colony to 164-million sq. yds. a year for three years. The Indian and Pakistani agreements are subject to continuance of the Hong Kong pact, the Board says.

•

The three ceilings now set mean that 377-million sq. yds. of cotton cloth a year will enter Britain from the Far East. This amount is roughly equal to Lancashire's total exports last year.

The agreements have been welcomed by the British Board of Trade and the Cotton Spinners and Manufacturers Assn., but less enthusiasm is shown by some local trade groups.

Bolton Weavers Assn., for example, said, "It is going to be difficult to cope with this intake of cheap cloths."

Mill Sales and Profits Continue at Good Level

Late operating statements indicate that mill sales and profits are continuing the fast pace set in the early 1959 quarters.

Here's how several mills fared in their latest statements:

• Joseph Bancroft & Sons

In the fiscal year ended June 30, Bancroft's sales ran $26,902,563, compared to $22,843,880 in the previous year. Net profit after taxes amounted to $1,055,636, equal to $1.20 per share of stock, compared to a net loss of $12,426 in the previous year.

• Indian Head Mills

For nine months ended Aug. 29, Indian Head's sales ran $40,932,000, compared to $30,080,500 in the same period last year. Net profit (no taxes due because of a tax-loss carry-over) was $2,277,000, equal to $3.86 a share, compared to $1,696,800, equal to $2.85 a share, in the same 1958 period.

• Kayser-Roth Corp.

For the fiscal year ended June 30, sales were $103,261,402, a company record, compared to $55,931,590 in the preceding fiscal year. Net profit after taxes and preferred-dividend payments amounted to $3,817,321, also a company record, equal to $4.30 a share, compared to $738,062, equal to 97¢ a share, in fiscal 1958.

• Kendall Co.

Nine-months' sales were $77,265,000, compared to $69,212,000 in the same period in 1958; and net profit after taxes was $1,326,000 ($1.27 a share), compared to $714,000 (66¢ a share) in the same period last year.

• Reeves Bros.

For the fiscal year ended June 27, sales were $62,042,518, compared to $55,974,582 in the previous fiscal year; and net profit after taxes was $974,843 (85¢ a share), compared to $120,376 (11¢ a share) last year.

• J. P. Stevens

For three months ended Aug. 1, Stevens's sales were $113,184,461, compared to $95,573,376 in the same three months of 1958; and net profit after taxes (with some tax-loss carry-over) was $4,568,423 ($1.10 a share).

Department-Store Sales Run 7% Ahead of 1958

Department-store sales were still running well ahead of last year all over the country at the time of the mid-month report last month by the Federal Reserve Board.

For the period Jan. 1-Oct. 10, sales in the U. S. were up 7%; and for the four-weeks' period ending Oct. 10, they were 6% above the same period last year.

Gains for the year ranged from 10% in the San Francisco area to 2% in the New York area. In the Mid-West, the area most sensitive to the steel situation, gains ran 6% in Cleveland, 8% in Chicago, and 6% in St. Louis.

In the four-weeks' period, only two areas dropped below last year. Richmond was down 1%, and Kansas City was down 7%.

U. S. market trends are shifting away from soft, thin silks to heavier silks. Exports to the U. S. this year are running in the following proportions—

Habutai silk	35 (%)
Organdy	25
Fuji silk	12
Shantung	9
Pongee silk	4
Chiffon	4
Georgette silk	2

•

U. S. Company Joins Jute-Bagging Venture

KARACHI—The Belton Bagging Co. of the U. S. A. has been granted permission by the Pakistan government to set up a jute-bagging plant in East Pakistan in partnership with local investors.

The plant would normally cost $400,000 in foreign exchange, but the American company is bringing to Pakistan a second-hand plant that will constitute its share of the total investment going into the scheme.

The American company will have the controlling interest in the enterprise, the ratio between its investment and local investment being 80 to 20. The Pakistan Industrial Credit & Investment Corp. is committed to advance supporting loans to local investors interested in the project.

The plant will use as raw material Pakistan's home-grown jute cuttings, which have been going to waste in the past.

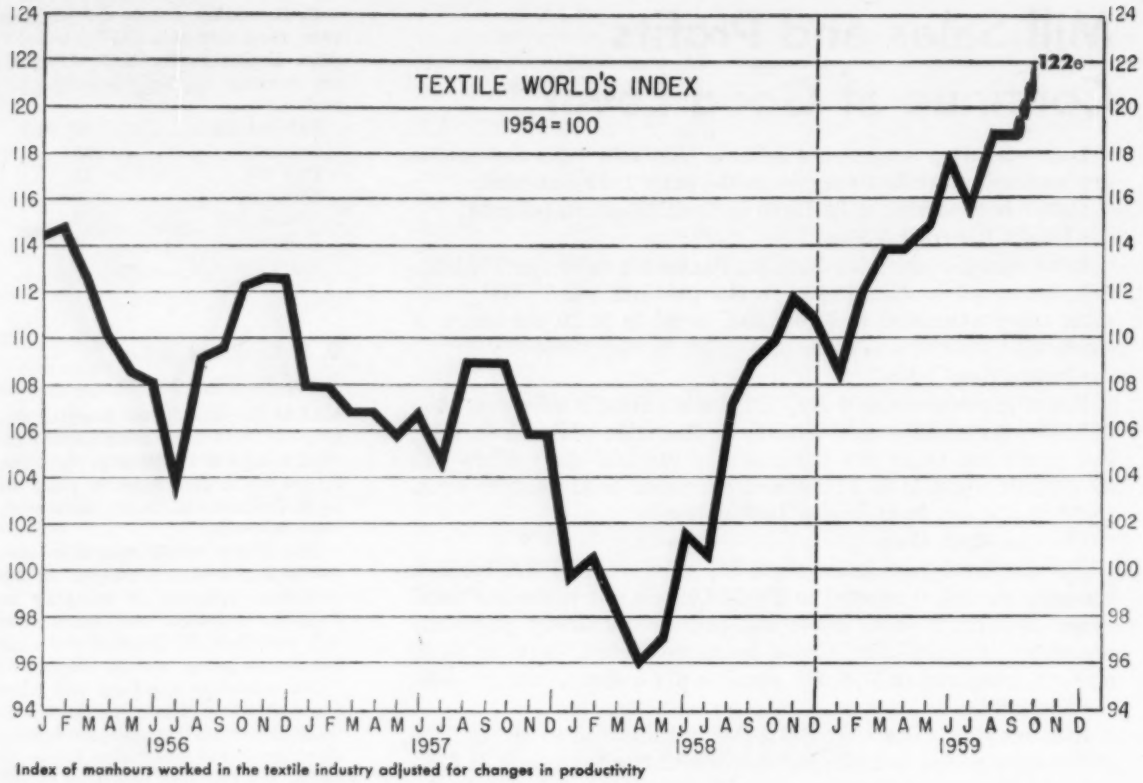
•

New Nylon Plant To Go Up in Mexico

MEXICO CITY—The "tire-cord controversy" has reached Mexico in full dress for battle. Until now, Mexico has been riding on rayon tire cord; but a Monterrey company, Celulosa y Derivados, S.A., has now tossed the hat in the ring to put Mexicans on nylon 6,6 tires. The company has made a contract with La Algemene Kunstzijde Unie N.V. of Holland to construct a plant and go into the production of nylon 6 and nylon 6,6. The plant will cost around $3-million.

Nylon is already being made in Mexico by Celanesa Mexicana, S.A., a subsidiary of Celanese in the U. S. Celanese makes nylon 6 for textile purposes and also makes rayon tire cord. Now it is "seriously studying" the need to enter nylon 6,6 production for tire cord to meet Celulosa y Derivados's competition.

Celanese has recently undergone a big expansion program in nylon 6 in its Ocotlan, Jalisco, plant.



Index of manhours worked in the textile industry adjusted for changes in productivity

Textile World's Monthly Indicators

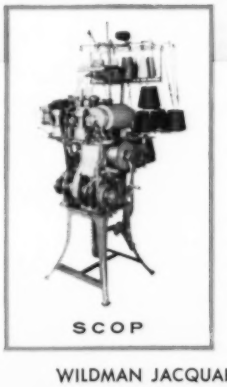
	Latest Month	Previous Month	Year Ago
Textile World's Index (1954=100)	**122***	**119**	**110**
Employment (thousands) B.L.S.	982.6	980.1	951.4
Production Workers (thousands) B.L.S.	890.1	886.8	859.9
Weekly Earnings B.L.S.	64.55	64.87	59.95
Hourly Earnings B.L.S.	1.59	1.59	1.51
Weekly Hours Worked B.L.S.	40.6	40.8	39.7
Production Index (1947-49=100) F.R.B.	121**	107	103
Wholesale Price Index (1947-49=100) B.L.S.	95.9	95.7	93.3
Manufacturers' Sales (million $) Commerce	1,256**	1,256	1,077
Manufacturers' Inventories (million $) Commerce	2,494**	2,534	2,524
Inventories-to-Sales Ratio	1.99**	2.02	2.34
Exports (million $) Commerce	64.8**	64.1	76.3
Imports (million $) Commerce	107.3**	92.5	80.3
Stock Price Index (1941-43=10) Standard & Poor's	31.92	32.80	23.30
Failures (number) Dun & Bradstreet	5	3	2

National Economic Indicators

	Latest Month	Previous Month	Year Ago
Industrial Production (1947-49=100) F.R.B.	148	149	137
Consumer Price Index (1947-49=100) B.L.S.	124.8	124.8	123.7
Wholesale Price Index (1947-49=100) B.L.S.	119.6	119.1	119.1
Population (millions) Census	175.1	174.9	172.0
Unemployment (millions) Census	3.2	3.4	4.1
Employment (millions) Census	66.3	67.2	64.6
Personal Income (billion $) Commerce	379.6	380.0	364.2

* Estimate for October. ** August. September is Latest Month in all other cases.

QUALITY CONSCIOUS



SCOP

Individuals continue to purchase socks knitted on Hemphill Banner SCOP machines. • The combination of patterns and colors which can be produced on the *proven* SCOP Machine make these fabrics particularly appealing. • Fully automatic, the SCOP knits complete, solid color overplaid argyles and will accommodate up to eight clear solid colors to a course.

WILDMAN JACQUARD

WILDMAN JACQUARD CO. • 1210 Stanbridge Street • Norristown, Pennsylvania • Manufacturers of HEMPHILL BANNER Knitting Machines

a subsidiary of Draper Corporation, Hopedale, Mass.

MORE THAN 3½ MILLION SPINDLES NOW EQUIPPED WITH ROBERTS HIGH DRAFT

ROBERTS SPINNING NEWS

PUBLISHED BY ROBERTS COMPANY SANFORD, NORTH CAROLINA

WM-2 SANFORD, NORTH CAROLINA, U. S. A. 1959

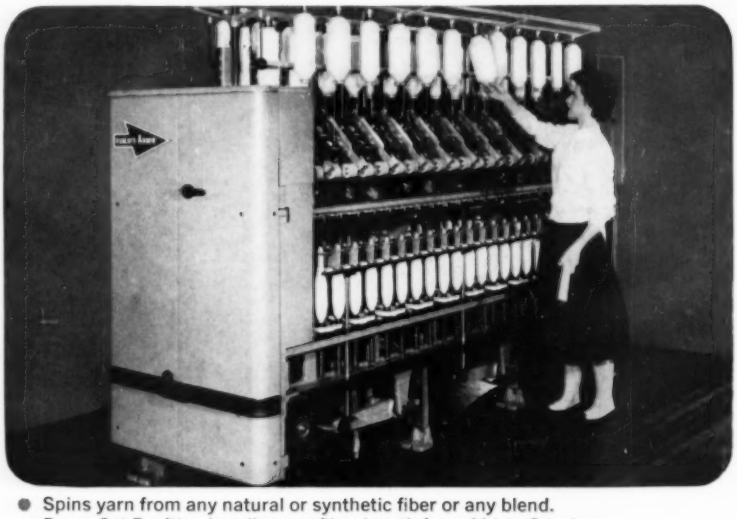
ARROW WM-2 LONG FIBER SPINNING FRAMES OFFER WIDEST YARN MAKING VERSATILITY

A dynamic program of new product design, advanced styling and aggressive merchandising is underway by all segments of the Textile Industry.

Knitting yarns of higher quality and greater interest are being called for in worsted, synthetics and blends. Finer weaving yarns up to 2 ply 80's are being called for and a great many blends are currently being explored. The longer fibers are in wide demand and the next few years should see a substantial boom in this field.

The demand for high bulk knitting yarns and the finer weaving yarns plus all of the newer fabric effects being created require fiber lengths from 3 to 8 inches long.

ARROW WM-2 frames are suitable for making yarns in any fiber length from 1½ to 8 inches. They provide great versatility in handling 100% synthetics, blends of synthetics, 100% worsteds and blends of worsted with synthetics in this range. Better quality yarns with greater evenness, bigger package sizes and higher production speeds are produced on ARROW frames.



- Spins yarn from any natural or synthetic fiber or any blend.
- PermaSet Drafting handles any fiber length from 1½ to 8 inches
- No roll setting changes needed at any time
- Great versatility for changing yarn numbers, twist, draft, ring size, and spindle speed
- Drafts as high as 24 on worsted, 60 on synthetic
- Produces yarn with better evenness and greater breaking strength
- Ball bearing top and bottom rolls eliminate all lubrication in drafting zone
- Almost ideal spinning conditions from delivery roll to spindle
- Runs at higher front roll, traveler and spindle speeds
- Reduces ends down by more than 50%
- Puts twice as much yarn on the bobbin as older frames
- 12-inch bobbins reduce winding costs
- Very rugged, most durable machine ever built for yarn spinning
- Frame is built in the wide-stance 36-inch width
- Uses ball bearings at every moving, turning or oscillating motion
- Substantially lowers electric power consumption
- AeroCreel for single or double roving
- Frame arranged for practical application of overhead cleaning and vacuum floor sweeping

Roberts ShortFlo System for Making Long Fiber Yarns

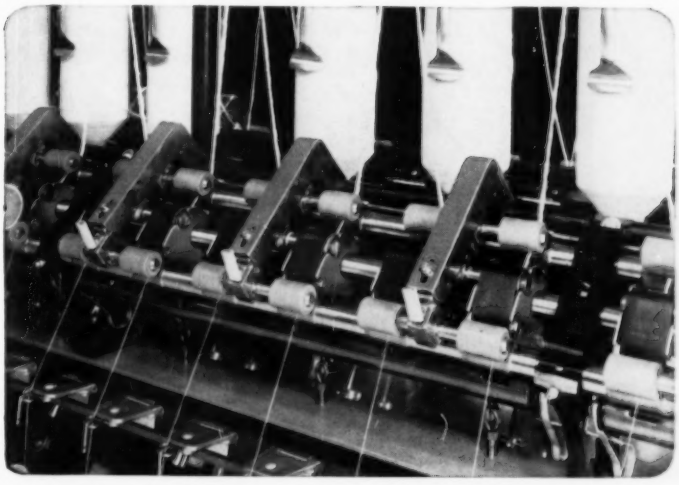
Roberts Company offers complete technical service in adapting its ShortFlo System for the production of long fiber yarns. This includes the complete yarn manufacturing process starting with tow converters, blending machines, pin drafting, roving frames, spinning frames, winders and twisters.

Where mills have existing equipment, full consideration is given to utilizing it whenever possible. Or, if a new long-fiber program is planned, all machinery can be specified, and the complete yarn organization set up.

The ShortFlo System for making long fiber yarns requires a minimum number of processes. Many doublings are provided to insure exceptionally good blending of fibers, improved evenness and better strength.

THE MOST SENSIBLE ANSWER TO GADGET-FREE TOP ROLL SUSPENSION

ROBERTS *PosiWate* SUSPENSION SYSTEM



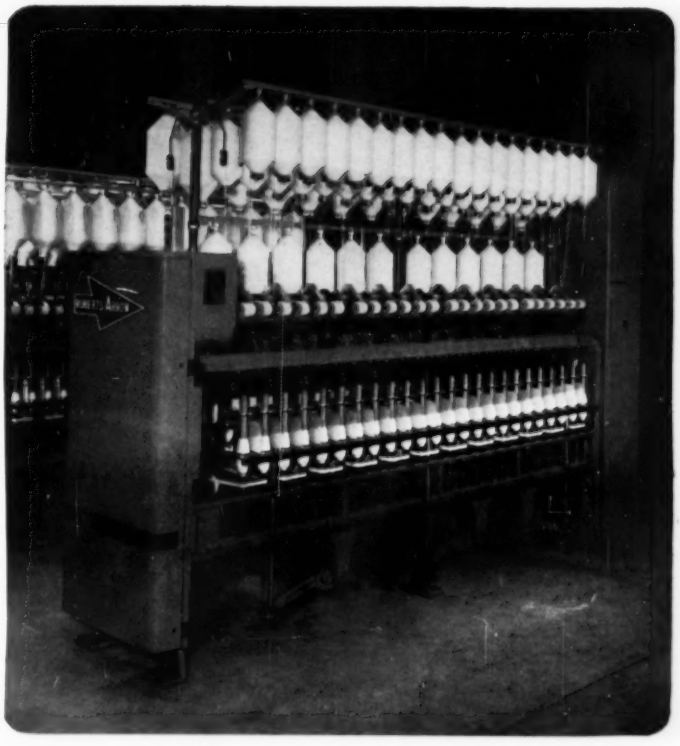
PosiWate Ball Bearing Top Roll Suspension eliminates all cap bars and the need for top roll oiling. All three lines of top rolls have double-row ball bearings; heavier weighting can be handled when required. Weight distribution is positive. Hooks, short springs and other gadgets are not used. Roberts Ball Bearing Bottom Rolls with EvenGrip Fluting are also available.

A FEATURE OF

ROBERTS ARROW

MODEL M-1

and changeover modernization for any make of frame



ARROW M-1 SPINNING FRAMES

for cotton and for synthetics
1½ to 3¼ inches long

PosiWate Top Roll Suspension

UnaRing Balloon Control

EvenGrip Fluted Bottom Rolls

Roberts Supreme Ball Bearing Spindles

Double-Apron High Draft System

UnitVac Power-Suction Cleaning

Roberts All-Ball-Bearing Head

Unitized Sectional Frame

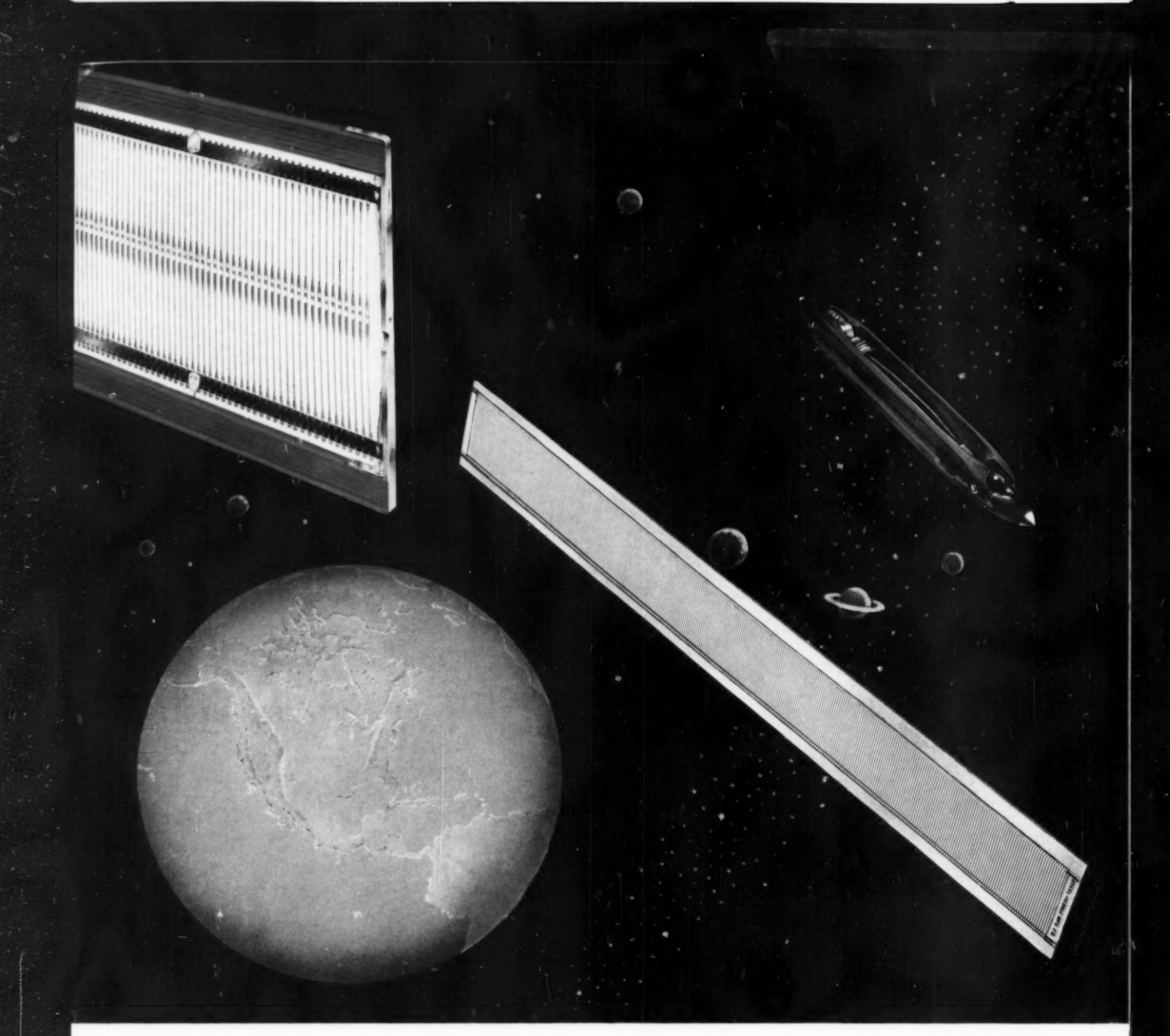
AeroCreel with Latch-Type Bobbin Holders

In Mexico, write direct to:

Roberts Co. de Mexico, S.A.
Avenida Reforma 915A
Puebla, Pue.

ROBERTS COMPANY

SANFORD, NORTH CAROLINA



Stehedco Quality Products and Service Make a World of Difference

Because textile profits depend upon long, trouble-free runs of perfect, high quality fabrics, weavers demand quality in their Heddles, Frames, Reeds and Shuttles.

Because profits also depend upon having the right equipment —when it is needed—weavers look for superior service from their supplier.

It is significant that where quality and service are important, Stehedco is specified.

Learn more of Stehedco quality and service from your Stehedco Sales Engineer. Earn more profits by choosing Stehedco.

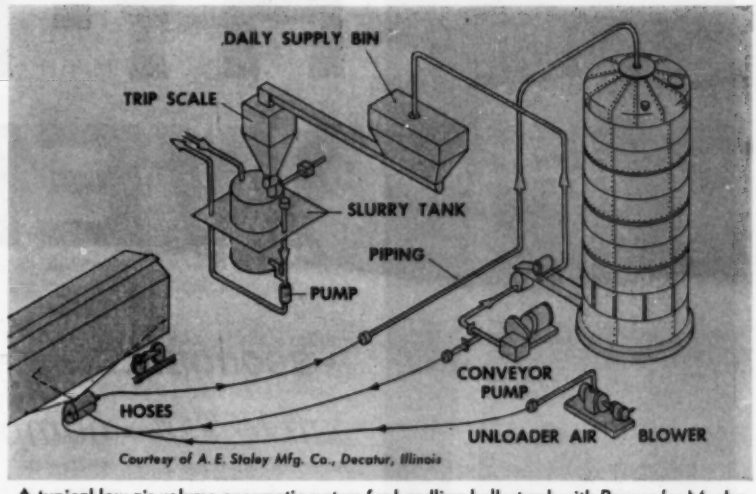
Stehedco
STEEL HEDDLE MFG. CO.
PHILADELPHIA 32, PA.
SOUTHERN SHUTTLE DIV.
GREENVILLE, S.C.
Southern

Other Plants and Offices: Granby, Quebec, Canada • Lawrence, Mass. • Greensboro, N.C. • Atlanta, Ga. • Textile Supply Co., Dallas, Texas • Albert R. Breen, Chicago, Ill.

K-5815

CIRCLE 14 ON READER SERVICE CARD

Here's a "TRIPLE-THREAT" cost-saving system for handling bulk starches



Courtesy of A. E. Staley Mfg. Co., Decatur, Illinois

A typical low air-volume pneumatic system for handling bulk starch with *Permaglas* Mechanized Storage Units. Shipped in hopper cars, starch is unloaded by air-activated gravity conveyors, and delivered by air to storage bin, and then to a daily supply bin through a hose and piping connected to the conveyor blower. Screw conveyor carries starch from daily supply bin to automatic scales which supply a continuous slurry make-up tank.

Permaglas® *Storage Structures ...mechanical "sweep-arm" bottom unloader ...pneumatic or mechanical conveying systems*

Permaglas Mechanized Storage Structures offer a "dynamic challenge" to the higher cost, conventional methods used in handling and storing bulk starches—granular, grit, pearl, and powdered—the basic raw materials in paper, textiles, food processing, baking, confections and pharmaceutics. You can realize lower costs in your starch processing operations when *slow and expensive* methods are replaced with *Permaglas* Mechanized Storage Units, equipped with the *exclusive* "sweep-arm" bottom unloader, and an efficient pneumatic or mechanical conveying system.

The major advantages of an automatic bulk hanling system are:

- Bulk starch costs less than starch in paper or cloth bags.
- Labor costs are less. Save as much as 40 man-hours to unload a car of starch.
- Save warehouse space used for storage of bagged starch.
- Eliminate hidden dollar losses due to breakage, spillage, and residue left in bags.
- Prevent hazardous accidents with safer and cleaner plants.

What's more, you get this *exclusive* A. O. Smith feature. *Permaglas* Storage Structures are glass-fused-to-steel construction* both inside and out. They make possible sanitary, easy-to-clean, bulk starch handling systems. Eliminate corrosion. Safeguard starch from contamination. Reduce periodic structure maintenance to a minimum.

This low-cost automatic way to handle and store starches can be accomplished with minimum of capital investment. Certainly, it is worth further investigation. Mail coupon for details.

Through research ...a better way

A.O.Smith
CORPORATION
HARVESTORE PRODUCTS
KANKAKEE, ILLINOIS
A. O. Smith International S.A., Milwaukee 1, Wis.

*HYDRASTEEL— Protected by U.S. Patent No. 2,754,222

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Send me free Permaglas Mechanized Storage Unit Bulletin MU-100.

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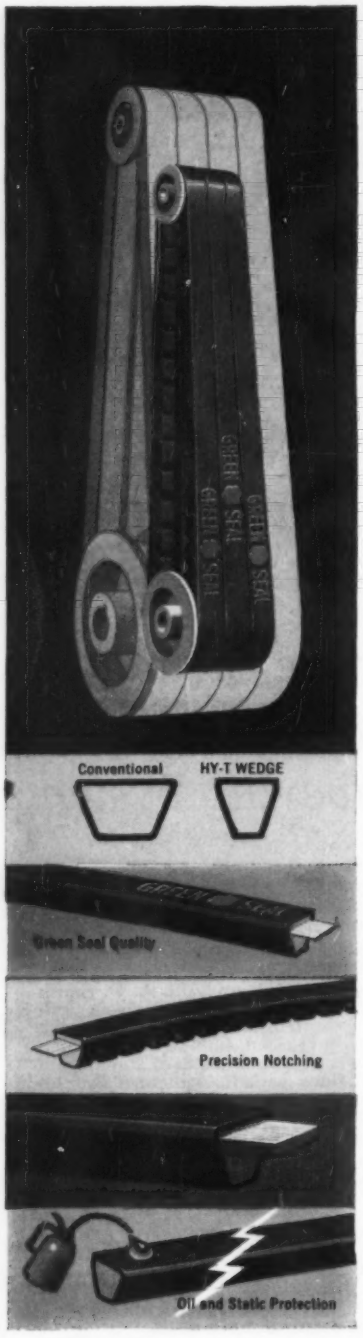
Title.....
Company.....
Address.....
City.....Zone....State.....

IT'S NEW! IT'S ANOTHER GREAT GREEN ✿ SEAL V-BELT—

HY-T WEDGE



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It's just what you'd expect from the Goodyear specialists who pioneered and patented the first wedge-type V-Belt in '48!

Now Goodyear brings you the HY-T WEDGE, a great new V-Belt design that's stripped clean of free-loading "fat." It's a belt that's *all muscle*—capable of handling substantially greater horsepower—on more compact drives—at lower costs.

HY-T WEDGE is the *only* wedge-type V-Belt that can guarantee you Green Seal quality. Famed 3-T Cord construction means that matched sets of these super-strong belts *stay* matched no matter how rugged the drive or how long they're stored.

HY-T WEDGE is precision-notched in smaller-drive sizes to give you maximum flexibility and heat dissipation.

HY-T WEDGE—in larger-drive sizes—gives you multiple-ply construction for super-stamina.

And HY-T WEDGE gives you—without extra cost—built-in protection against oil attack and static electricity build-up.

Here, then, in the HY-T WEDGE, you have a new kind of V-Belt to handle the toughest belting jobs with smaller, more efficient drives—at never-before low cost.

For full details, check with the G.T.M.—Goodyear Technical Man—through your Goodyear Distributor. Or write Goodyear, Industrial Products Division, Lincoln 2, Nebraska, or Akron 16, Ohio.

HY-T WEDGE with the GREEN ✿ SEAL BY

GOODYEAR

THE GREATEST NAME IN RUBBER

HY-T WEDGE, Green Seal—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

American Thread Co., New York, N. Y., has completed installation of its new IBM Ramac 650 Tape unit and now has the unit in operation.

Amity Dyeing & Finishing Co., Glendale, N. Y., has moved its plant to Norwich, Conn.

Bachmann Uxbridge Worsted Corp., Uxbridge, Mass., has sold the former Granite Mill, Pascoag, R. I., to Hillelson Realty Co. for $60,000. Andrew Worsted Mills, Inc., also in Pascoag, has leased 70,000 sq. ft. of the building and plans to expand its spinning operations there.

Bemis Bro. Bag Co., St. Louis, Mo., will build a one-story manufacturing plant in Newark, Calif., which will replace the company's San Francisco plant. The new plant is expected to be completed in the late spring. It will manufacture multiwall, burlap, cotton, open-mesh, and waterproof laminated-textile bags.

Bell Textile Co., Patterson, N. J., is undertaking a two-year expansion and consolidation program in Belcraft Chenilles, Inc., and Walter M. Gotsch Co., Dalton, Ga., and Dixie Belle Mills Co. and Pride Rug Mills Co., Calhoun, Ga.

Berkshire Hathaway, Inc., Providence, R. I., has sold the closed King Philip Finishing Div., Lonsdale, R. I., to Frank G. W. McKittrick Co. for an undisclosed amount.

Blair Mills, Inc., Belton, S. C., has installed 26 new Piedmont spinning frames, a 14x6½ Whitin slubber, and a Whitin Axi-Flo.

Burlington Greige Sales Co., Div. of Burlington Industries, Inc., New York, N. Y., has installed an integrated data-processing system that cuts the time between receipt of an order in New York and shipment of goods from its Southern mills at least 50%. The system also gives the company a running inventory of stocks on hand and shows trends in demand that may call for changes in production schedules for different types of fabric.

Carlin Processing Co., Landis, N. C., has started building a dyeing plant. The brick building and the equipment will cost about $750,000.

Chase Bag Co., New York, N. Y., has moved its executive offices to 355 Lexington Ave., New York, N. Y.

Cherokee Finishing Co., Gaffney, S. C., plans to build additions to its two plants costing $75,000.

Cole-Gunn Hosiery Mills, Inc., Yanceyville, N. C., plants to install 108 new seamless-hosiery machines and auxiliary equipment in its new additions to its Roxboro plant.

Draymore Mfg. Co., Mooresville, N. C., plans to build additional facilities at its plant. Draymore manufactures drapery fabrics and started operations several months ago.

Erwin Mills, Inc., Durham, N. C., will start an expansion at its dyeing and finishing plant at Cooleemee, N. C. Additional mercerizing and finishing equipment will be bought. The expansion program follows the board of directors' approval of expenditures of about $4-million for modernizing buildings and equipment of the company's plants in North Carolina and Mississippi over a two-year period.

Harris-Marshall Hosiery Mills, Inc., Galax, Va., has begun building a $100,000 addition. The company will install 200 additional knitting machines later this year.

Ivey Weavers, Inc., Hickory, N. C., has been bought by Burlington Industires, Inc., Greensboro, N. C.

A. D. Juilliard & Co., Inc., a subsidiary of United Merchants & Manufacturers, Inc., New York, N. Y., has discontinued its plain-corduroy production.

Keezer Mfg. Co., Plaistow, N. H., will start a knitting mill, Huskee Knitwear Mill, in Newton, N. H.

The Kendall Co., Boston, Mass., has formed two new divisions, the Textile Div. and the Fiber Products Div. The Textile Div., with headquarters in Charlotte, N. C., will be concerned with all weaving and finishing activities at the division's eight plants in South Carolina and Alabama. The company will build a $700,000 divisional office building and research facility in Charlotte to house the Textile Div.'s headquarters operations and to provide increased space for research. The Fiber Products Div., with headquarters in Walpole, Mass., will be concerned with the manufacture of nonwoven fabrics and other fiber products. The responsibilities assumed by the new divisions were formerly divided between Kendall's Cotton Mills and Kendall Mills Divs.

Manner Piece Dye Works and **Versatile Prints, Inc.,** Haledon, N. J., is a newly formed two-divisional operation. J. Anthony Cupo is president of Manner Piece Dye Works and Jess DeLuccia is president of Versatile Prints.

C. H. Masland & Sons, Carlisle, Pa., has bought Horizon Carpets, Inc., and will operate it as a wholly owned subsidiary.

Melville Textile Print Works, Inc., Statesville, N. C., is a newly formed company with authorized capital of $200,000.

Princeton Knitting Mills, Watertown, Conn., is transferring part of its rug operation to Oakville.

Riverside Silk Mills Ltd., Galt, Ont., has sold its fabric-making division to Silknit, Ltd., Toronto, Ont.

Rockingham Mills, Inc., Rockingham, N. C., is a newly formed firm that is starting operations in the former Safie Mills building. It will weave and dye upholstery fabrics.

CONTINUED ON PAGE 175

Textile World

CALENDAR

November

AATT, Della Robbia Room, Hotel Vanderbilt, New York, N. Y., Nov. 4

Textile Research Institute, seminar on chemical structure of viscose, Textile Research Institute, Princeton, N. J., Nov. 5

Narrow Fabrics Institute, annual meeting, Hotel Biltmore, New York, N. Y., Nov. 9 & 10

Fabrics Maintenance Conference, Georgia Institute of Technology, Atlanta, Ga., Nov. 10

National Association of Woolen and Worsted Overseers, fall meeting, Hotel Madison, Boston, Mass., Nov. 13 & 14

Packaging Machinery Manufacturers Institute Show, New York Coliseum, New York, N. Y., Nov. 17 to 20

Tufted Textile Manufacturers Association, Interim Workshop meeting. Hotel Patten, Chattanooga, Tenn., Nov. 18

27th Exposition of Chemical Industries, New York Coliseum, New York, N. Y., Nov. 30 to Dec. 4

December

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Dec. 2

AATCC, Northern New England Section, joint symposium with ASME Textile Engineering Div., Smith House, Cambridge, Mass., Dec. 4

AATCC, Rhode Island Section, annual meeting, Johnson's Hummocks Grille, Providence, R. I., Dec. 4

AATCC, Delaware Valley Section, Philadelphia, Pa., Dec. 4

AATCC, Western New England Section, Hartford, Conn., Dec. 4

1960

January

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Jan. 6

Plant Maintenance & Engineering Show, Convention Hall, Philadelphia, Pa., Jan. 25 to 28

February

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., Feb. 3

American Society for Quality Control, Textile Div., annual conference, Clemson House, Clemson, S. C., Feb. 18 & 19

March

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., March 2

Fiber Society, spring meeting, Roosevelt Hotel, New Orleans, La., March 10 & 11

April

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., April 6

American Cotton Manufacturers Institute, annual meeting, Americana Hotel, Bal Harbour, Miami Beach, Fla., April 7 to 9

Alabama Textile Manufacturers Association, annual meeting, Buena Vista Hotel, Biloxi, Miss., April 20 to 22

Textile Institute, annual general meeting, Midland Hotel, Manchester, England, April 22

Phi Psi, annual convention, Hotel Roosevelt, New York, N. Y., April 28 to 30

Underwear Institute, annual meeting, Hotel Biltmore, New York, N. Y., April 29

May

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., May 4

Georgia Textile Manufacturers Association, anniversary meeting, Diplomat Hotel and Country Club, Hollywood, Fla., May 19 to 21

American Textile Machinery Exhibition, Atlantic City, N. J., May 23 to 27

11th Annual Cotton Research Clinic, Grove Park Inn, Asheville, N. C., May 31 to June 2

June

AATT, Della Robbia Room, Vanderbilt Hotel, New York, N. Y., June 1

Southern Textile Association, annual convention, Grove Park Inn, Asheville, N. C., June 23 to 25

ASTM, annual meeting, Chalfonte-Haddon Hall, Atlantic City, N. J., June 26 to July 1

September

Chemical Finishing Conference, sponsored by the National Cotton Council, Statler Hotel, Washington, D. C., Sept. 27 & 28

October

21st Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 3 to 7

Carded Yarn Association, annual meeting, Grove Park Inn, Asheville, N. C., Oct. 5 to 8

AATCC, national convention, Sheraton Hotel, Philadelphia, Pa., Oct. 6 to 8

Processing Synthetics

with Butterworth Machines

Butterworth builds synthetic fiber processing machines to customer specifications:

- Synthetic fiber spinning and processing equipment, including the world-famous Butterworth Pot Spinning Machine.
- Wet finishing ranges — washers, padders, tenter dryers, cylinder dryers.
- Printing and embossing machines.

Butterworth Machines are engineered to meet your requirements, and backed by a strong, service-minded organization. It pays to put Butterworth in your machinery plans.

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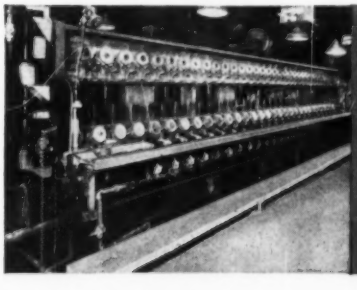
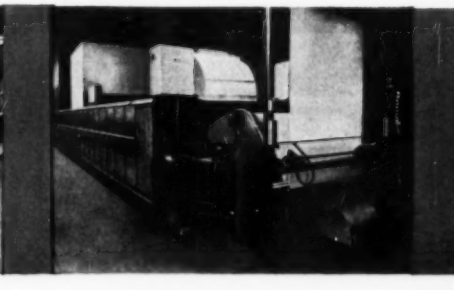
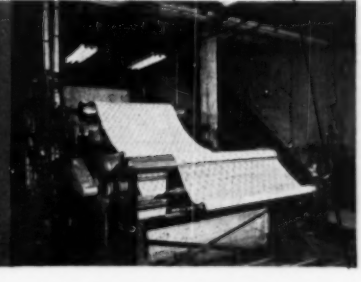
Butterworth Pot Spinning Machine



Butterworth Tenter Drying Range



Butterworth Embossing Machine



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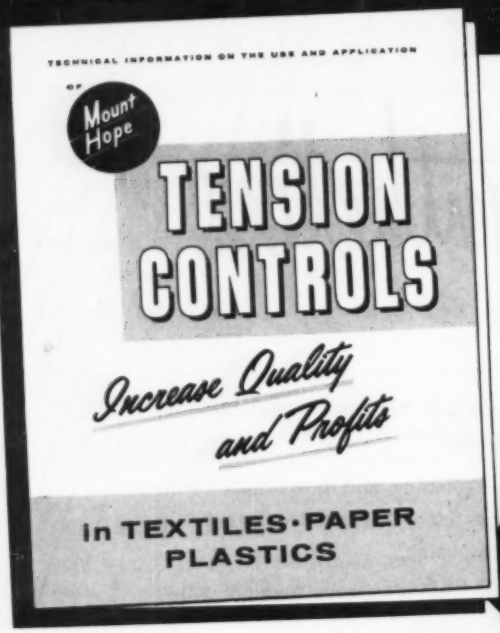
TENSION CONTROL PROBLEMS!



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2 "IN-PROCESS"

3 WINDING OR BATCHING

FREE FOLDER GIVES ALL DATA . . .

on the COMPLETE LINE of Mount Hope TENSION CONTROLS

LEARN HOW TO BEAT TENSION PROBLEMS ON ANY WEB — ANYWHERE ON THE RANGE!

No matter what your web tension trouble may be — anywhere from let-off — in-process or batching, *on any web* — Mount Hope has a modern, proved TENSION CONTROL UNIT to eliminate it, increase quality and cut costs.

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QUESTIONS & ANSWERS

Do you need help on a technical problem? TEXTILE WORLD is at your service in helping solve problems in yarn manufacturing, weaving, knitting, dyeing, finishing, and other textile operations. A large staff of mill men, consultants, and other experts are available for authoritative answers. Send your problem to the Editor, Questions and Answers, TEXTILE WORLD, 201 E. Coffee St., Greenville, S. C.

Formula for Slashing Newest Glass Fibers

Technical Editor:

Please let us know the formula and size material that should be used in slashing 150 1/0 DE glass-fiber yarn. The cloth is for drapery material, 72 ends by 56 picks, and will be burned out after it is woven. The size must burn out evenly in the Coronizing process. (1453)

One good sizing formula for slashing glass fibers is:

Cellosize WP-09	20 lbs.
Butyl Cellosolve stearate	7 lbs.
Firmtal	14 lbs.
Water	441 lbs. or 50 gals.

The water is warmed to 120° F., and the Cellosize WP-09 is added slowly with agitation. After a thorough solution is formed, the other ingredients are added. Then the temperature is brought to 180° F.

During slashing, the size-box temperature is 140° F., pressure on the squeeze rolls is 500 psi.; and cylinder temperatures are from the size box forward 140°, 180°, 210°, 180°, and 150° F.

Yarn beams for the looms are 24 ins. in diameter. This size beam holds the full 2,200 yds. of most section beams.

Loom Motions Cause Cracks In Corduroy

Technical Editor:

Can you tell us what causes cracks in corduroy and how we can eliminate them? (1460)

There are numerous causes of cracks in corduroy such as worn cams, high or low temples, improperly set har-

Ideal's Trade-In Allowance

Applies to Completely New Frames or Rebuilt Drawing Frames

Take your choice. Either way you save substantially. Either way you get drawing frames with the famous Feathertouch action which are equal in appearance, performance, production, efficiency, and quality **to any completely new drawing on the market.**

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—produces highest quality sliver—at over 400 ft. per min.
Frames can be operated singly or in multiples

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CIRCLE 21 ON READER SERVICE CARD

the NEW Model FDA-RC

Fade-Ometer®

Exposure conditions can be varied to provide good correlation with either the Daylight or Sunlight exposure methods.

As the two natural light methods on moisture sensitive materials can produce wide variation in colorfastness ratings, it would be expected that two different exposure conditions in the Fade-Ometer would be necessary to duplicate them.

To simulate the day and night cycling of the Daylight method where the specimens are left in the cabinet 24 hours a day, new conditions of higher relative humidity during alternate periods of light and darkness are utilized in the Model FDA-RC.

The new Fade-Ometer may also be operated under the standard conditions for the FDA-R to duplicate the Sunlight method where the specimens are placed in the cabinet only between 9 and 3 on sunny days.

Added new features include an electrically operated atomizer, combination Cycle Meter and Time Switch, and modification of the electrical circuits to permit operation of the components during the light-off period.

All Model FDA-R Fade-Ometers now in use may be easily converted into the Model FDA-RC. *Write for full details on either a new machine or on conversion of present equipment.*

Weather-Ometer® $2755 up.

Fade-Ometer® $1350 up. Complete with supplies.

Launder-Ometer® $875 complete with accessories and supplies.

Random Tumble Pilling Tester $485 to $890.

Scorch Tester $230.

Accelerotor® $485.

ATLAS ELECTRIC DEVICES CO., 4114 N. Ravenswood Ave., Chicago 13, Illinois, U.S.A.

Sales representatives in principal cities throughout the world

nesses, worn harness sheaves, worn timing gear, lost motion in the take-up roll or crankshaft bearings, and improper timing of spring-type crank arms.

You may be able to eliminate cracks by correcting these loom motions. Also check the looms for (1) true-running shuttles, (2) a straight warp line, and (3) standard loom settings.

Wax on Spindles Keeps Bobbins From Sticking

Technical Editor:

We recently installed new antifriction spindles with rubber mounts and are having troubles in doffing the bobbins because they tend to stick to the spindles. Pulling off the stuck bobbins gets the spindles out of plumb. Can you help us? (1462)

Several mills that have experienced this trouble report that stuck bobbins can be prevented by waxing the tip of the spindles once or twice a year with regular floor wax or a paraffin-base wax. In plumbing the spindles you might find it helpful to increase the pressure on your torque wrench if the bobbins continue to stick.

Six Ways To Control Fabric Wrinkles at Fulling

Technical Editor:

In our woolen mill, wrinkles or irregular marks that run warpwise in the fabric keep showing up during the fulling operation. Apparently the cloth gets pressed or felted together during fulling. Can you tell us what causes the trouble and how we can stop it? (1476)

Any number of conditions at fulling can result in wrinkles. The application of hot soap to the fabric, the use of insufficient soap to last throughout the entire fulling operation, use of synthetic detergents, too much alkali, too high a temperature, and excessive fiber plasticity all can cause wrinkles. Anything that makes the cloth run in the same folds for any length of time is a source of wrinkles.

Some methods that are commonly used to stop wrinkles are:

Stop the machine at frequent intervals and shake out the fabric.

Shift the position of the pieces in the mill.

Reverse the direction of the fabric.

Tack the fabric so that it balloons.

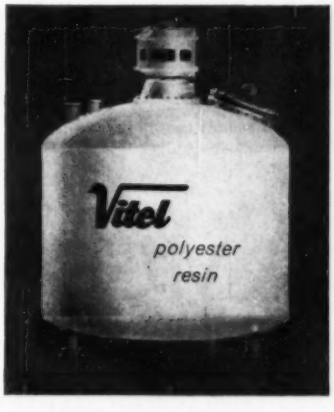
Scour before fulling.

CONTINUED ON PAGE 186

Vitel

*means "Freedom"**

"Fiber of Freedom"—that's what they're calling the new synthetic fiber made from VITEL, revolutionary polyester resin by Goodyear Chemical Division. The fiber: VYCRON, just announced by Beaunit Mills, Inc., Fibers Division. This teamwork—between the chemical and textile industries—opens exciting new possibilities in the world of fabrics. It means new freedom of operation for the textile industry—new sales-starting features for the retailer—new value for the consumer.



Properties of fiber spun from VITEL:

- *Exceptional yarn strength—good fiber-to-fiber cohesion.*
- *Outstanding dyeability and colorfastness.*
- *Excellent wrinkle-resistance—ideal for wash-and-wear.*
- *Easy processability on standard spinning systems.*

For details, write: GOODYEAR, CHEMICAL DIVISION, DEPT. K-9433, AKRON 16, OHIO

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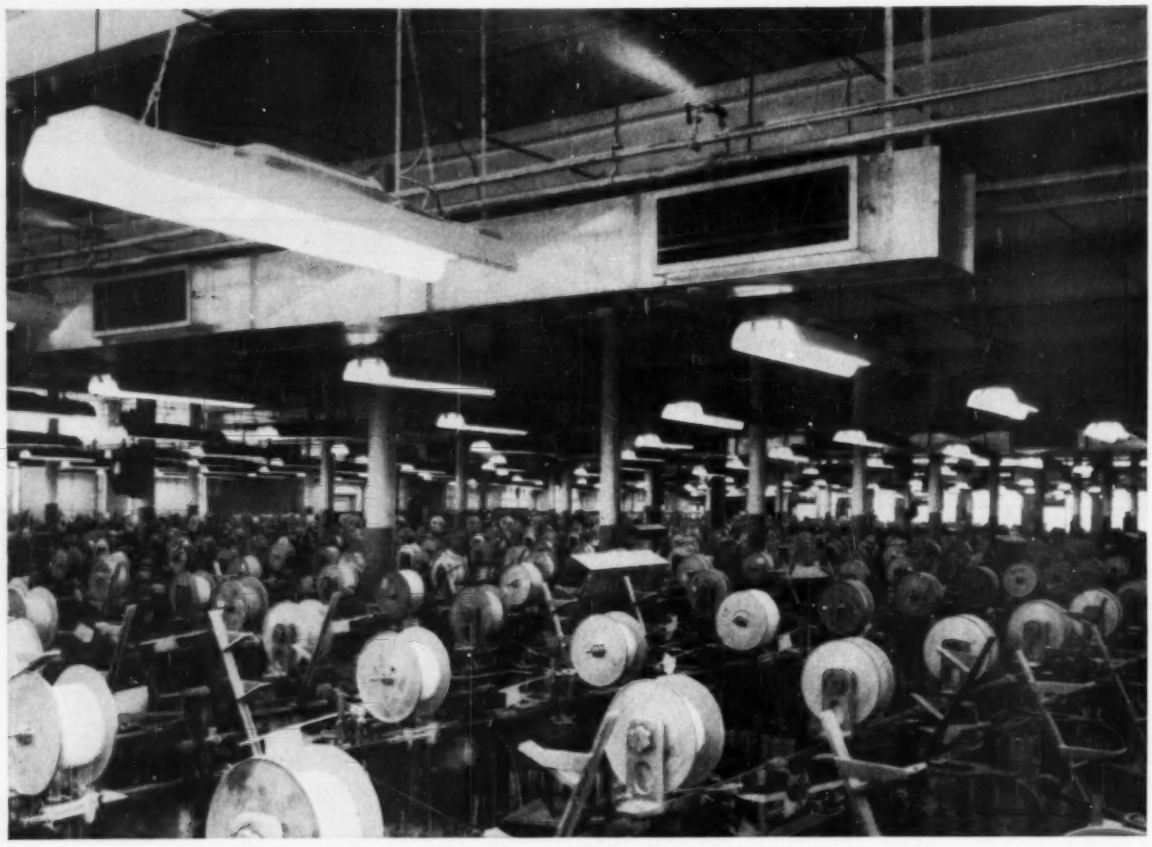
CHEMICAL DIVISION

Vitel—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio
Vycron—T. M. Beaunit Mills, Inc., Fibers Division

*NEW FREEDOM TO WEAVE A WIDER RANGE OF WONDER FABRICS



Providence Braid Company, Providence, R. I. showing ductwork, air outlets and atomizers.

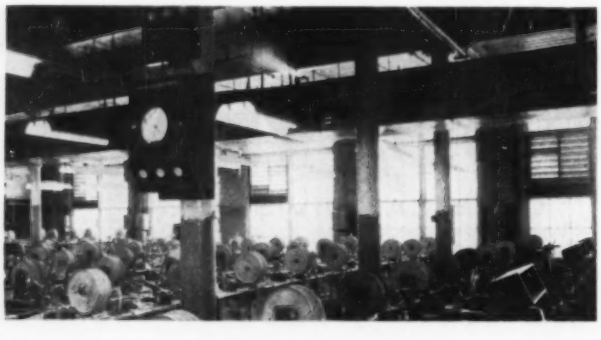
Is your humidifying system providing maximum cooling?

At Providence Braid Company an Amco Unit Dry-Duct system operates to control humidity precisely and, at the same time, to provide maximum cooling commensurate with the required evaporation.

As moisture from atomizers in a humidifying system evaporates, heat is absorbed and the air temperature is lowered. This cooling can be increased substantially by a positive ventilating system (such as an Amco Unit Dry-Duct system) which introduces fresh air uniformly throughout the mill room, thereby deliberately increasing the demand for evaporation in order to lower the temperature and maintain the selected humidity.

A unit dry-duct system consists of one or more air handling units, air ducts, room atomizers and pressure type window vents. When cooling is not required, recirculated air (instead of fresh air) is drawn into the unit, filtered and heated when necessary, then distributed through the ducts back into the room.

Amco's Unit Dry-Duct system is only one of several types of textile mill air conditioning systems which Amco engineers, manufactures and installs. For expert help, based on more than 70 years' experience, next time call on Amco.



◀ In same mill room, humidity control in foreground — window exhaust vents in background.

AMCO

SINCE 1888

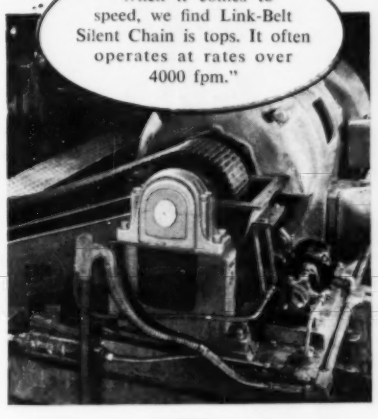
AIR CONDITIONING EQUIPMENT

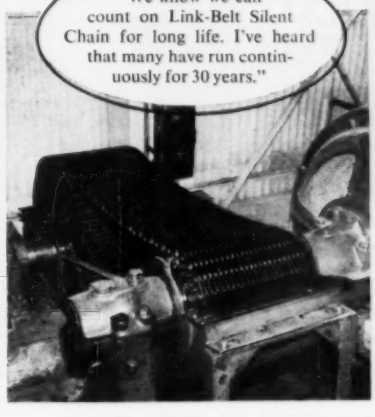
AMERICAN MOISTENING COMPANY, CLEVELAND, N. C.

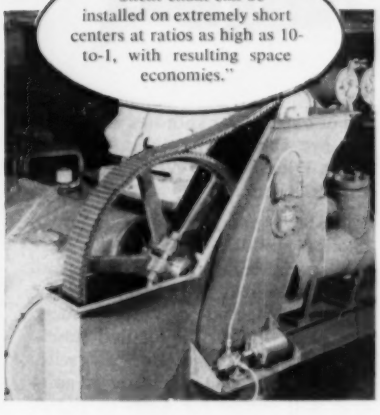
Branches: Atlanta, Ga. • Providence, R. I. • Toronto, Ont.

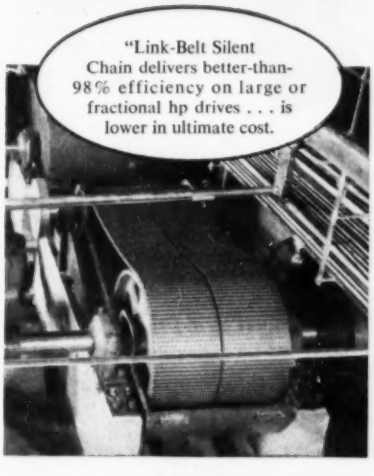
"Join me on a plant tour . . . see why

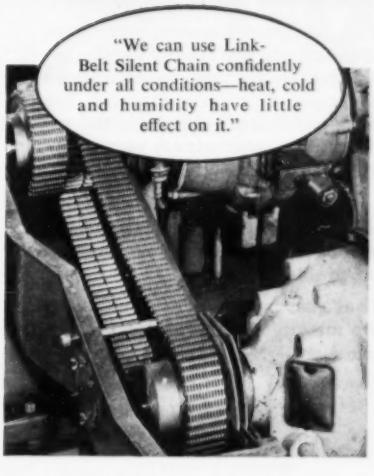
we're modernizing our drives with Link-Belt Silent Chain"











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LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Distributors in All Principal Cities. Export Office, New York 7; Australia, Marrickville (Sydney); Brazil, Sao Paulo; Canada, Scarboro (Toronto 13); South Africa, Springs. Representatives Throughout the World.

Bolster Briefs

by Ron Kinney

Manager, Textile Sales

During the past 12 years Ron Kinney has had occasion to visit almost every textile mill in the U.S.A. In these columns he answers some vital questions about bolsters and spindle maintenance —answers that could help improve production and cut operating costs.

All of our twister spindles are plain. We are considering their replacement. What can we gain by going to anti-friction?

There are many benefits to anti-friction spindles. Perhaps the biggest saving is in lubrication. As you know, plain bearings necessarily are re-lubricated very frequently. Costly down-time, labor and lubricants are a thing of the past with anti-friction as one oil filling in general will suffice for 4,000 to 10,000 operating hours, depending on the operating conditions. There is also an appreciable saving in power consumption.

We've heard of SKF equipped spindles for years. Have you made any new developments in twister bolsters?

Yes. We have recognized the desires of the mills for increased production and have designed the HZ unit to satisfy those needs. Its superior damping action enables the mills to obtain excellent performance with very high loads and speeds.

What about plumbing?

Spindles equipped with these bolsters are very easy to plumb. It can be done either while in operation or in a stationary position.

You speak of higher speeds and heavier loads. Are HZ equipped spindles actually in operation under these conditions?

Very definitely! Quite a few mills, both large and small, have installed them and are very well satisfied. So much so, in fact, that many are building their spindle modernization program around the HZ unit.

Why is the HZ bolster better than those offered for twister spindles?

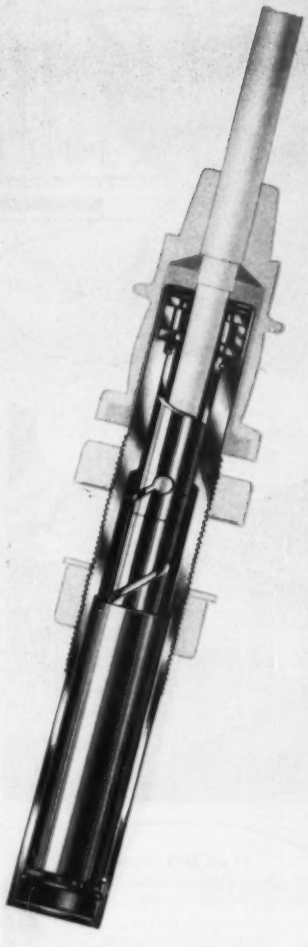
The damping elements are more adequate and can readily handle unbalances, higher speeds and heavier packages. Frictional damping has been eliminated, therefore, the relubrication intervals are very infrequent.

How can we be sure that the HZ will be suited to handle our particular problem?

That's easy. Just contact your spindle manufacturer or SKF Industries.

5940

GOT A PROBLEM?
SEND YOUR QUESTION TO
"BOLSTER BRIEFS".
c/o SKF INDUSTRIES, INC.
P. O. Box 6731,
Philadelphia 32, Pennsylvania



SKF Centering Sleeve Bolster "HZ"

Twister spindles equipped with this superior HZ bolster can carry heavier packages at higher speeds. For details, call GArfield 6-6400, or write: SKF Textile Division—Philadelphia, Pa. or Charlotte, N. C.

Specify "SKF-equipped" accept no substitutes

Spherical, Cylindrical, Ball, and "Tyson" Tapered Roller Bearings

EVERY TYPE—EVERY USE
SKF
SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.
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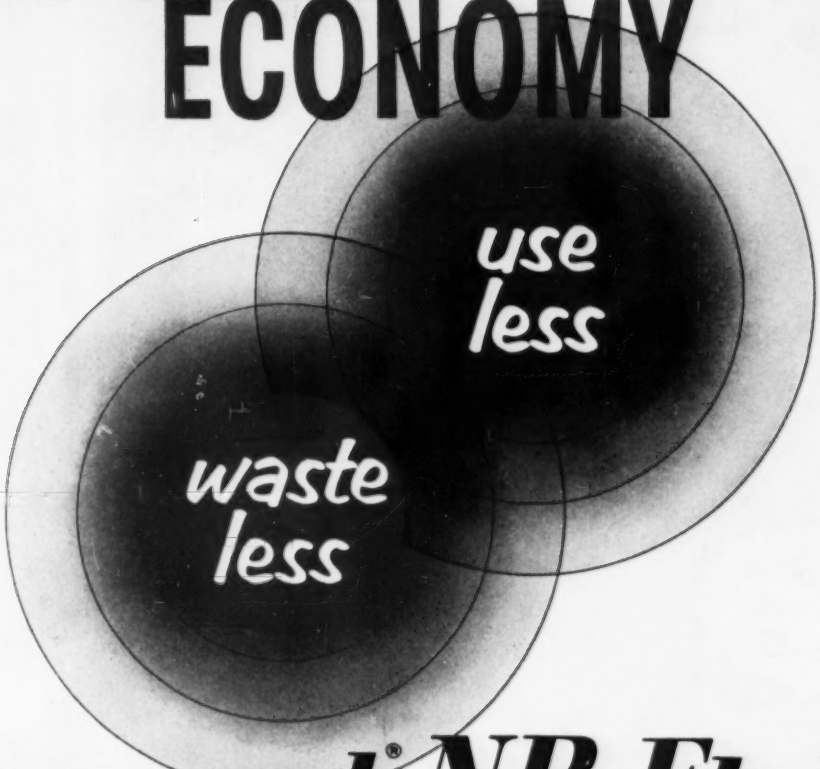
DOUBLE ECONOMY



Nacconol® NR Flake!

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Here's an extremely efficient surface active agent that saves you money *two* ways in scouring, wetting, emulsifying and other wet processing operations.

You *use* less because NACCONOL® is effective at low concentrations.

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Our nearest office will be glad to supply samples of NACCONOL NR and these other outstanding textile detergents:

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NACCONOL DB Dense Beads
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Know your AIM*...Indian Head Mills, Inc. does...

Steel Strapping Machine closes textile boxes

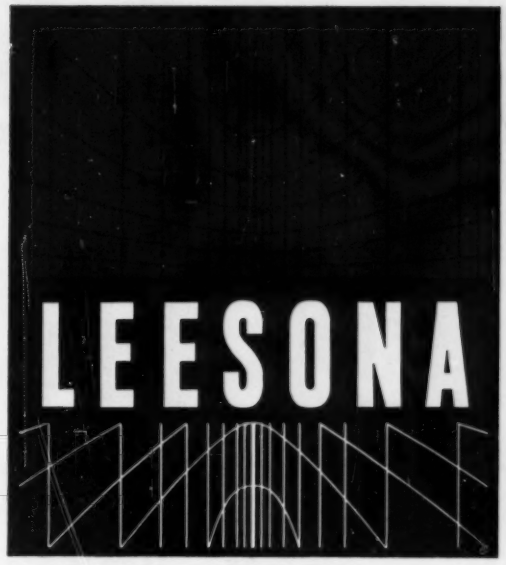
INDIAN HEAD MILLS, INC., Cheraw, South Carolina, uses an Acme Steel Model F1 Semi-Automatic Strapping Machine to close and reinforce boxes of their well-known, quality, "Indian Head" brand textiles. Now, only one man is required for the strapping operation . . . a saving of 8 to 12 man hours per day. (Idea No. S5-5)

Served by a conveyor system, the F1 applies as many steel straps as desired in a matter of seconds with uniform, pre-determined tension. Electrically powered, the machine is controlled by push-buttons. Strap is cut automatically, and ends are instantly and permanently joined by spot welds. The machine handles containers of various sizes in any sequence without adjustment. A special track feeds the strap to within easy operator reach.

Acme Idea Man J. B. Quarles cooperated with Indian Head Mills, Inc. on this modern installation.

***Know your Acme Idea Man.** He is sure to provide clues to better ways of protecting and shipping your products. Call him today at a nearby Acme Steel office. Or write Dept. TAS-119, Acme Steel Products Division, Acme Steel Company, Chicago 27, Illinois. In Canada, Acme Steel Company of Canada, Ltd., 743 Warden Ave., Toronto 13, Ontario.

ACME STEEL **STEEL STRAPPING**



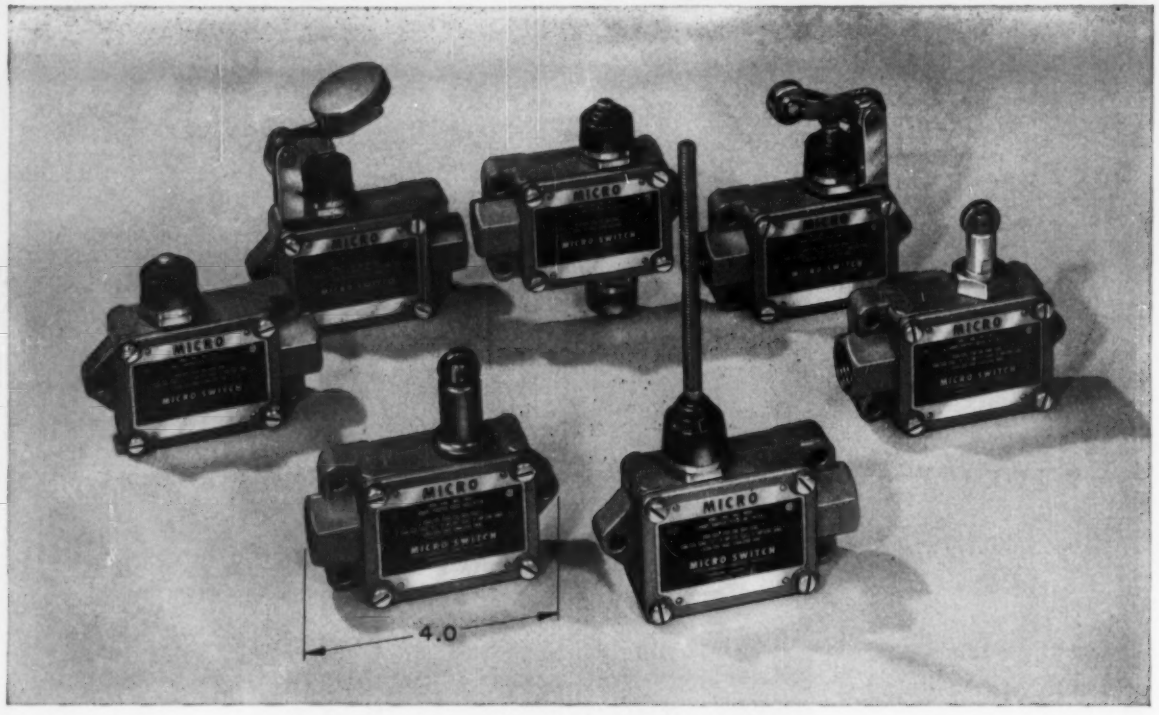
A new name ... a new look

We've changed our name from UNIVERSAL WINDING COMPANY to LEESONA CORPORATION . . . simply because we've *outgrown* the old name. Our product line now extends far beyond winding machines . . . and our research staff continues to develop new textile machinery that will improve processes, eliminate waste, reduce costs, and make possible better quality. Look for our new trade-mark shown here. It stands for the finest in modern craftsmanship . . . textile machines that can improve *your* operations.

LEESONA

LEESONA CORPORATION, P. O. Box 1605, Providence 1, Rhode Island

MICRO SWITCH Precision Switches



These high-capacity "BAF1" switches seal out dust, oil, and moisture

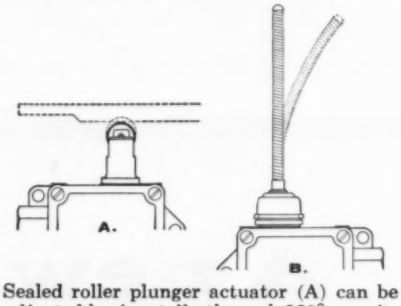
MICRO SWITCH "BAF1" enclosed switches are protected from physical damage by sturdy aluminum cases, and from oil, dust, dirt, and water by an O-ring seal between the case and the cover plate, and an elastomer boot around the plunger. Mounting holes accept ¼-inch bolts.

These high-capacity switches make and break steady state currents of 20 amperes and switch inrush currents as high as 75 amperes. The "BAF1" Series is especially suitable for heavy-duty industrial applications.

"BAF1" switches have single-pole double-throw contact arrangements. The switches may be used either normally-open or normally-closed. Available in either left hand or right hand mounting designs.

Consult the Yellow Pages for the name of the distributor near you. Send for Catalog 83.

Underwriter's Laboratories listing: 20 amps, 125, 250, or 460 vac; ½ amp, 125 vdc; ¼ amp, 250 vdc; 1 hp, 115 vac; 2 hp, 230 vac; 10 amps, 125 volts when controlling tungsten filament lamp loads on a-c circuits.

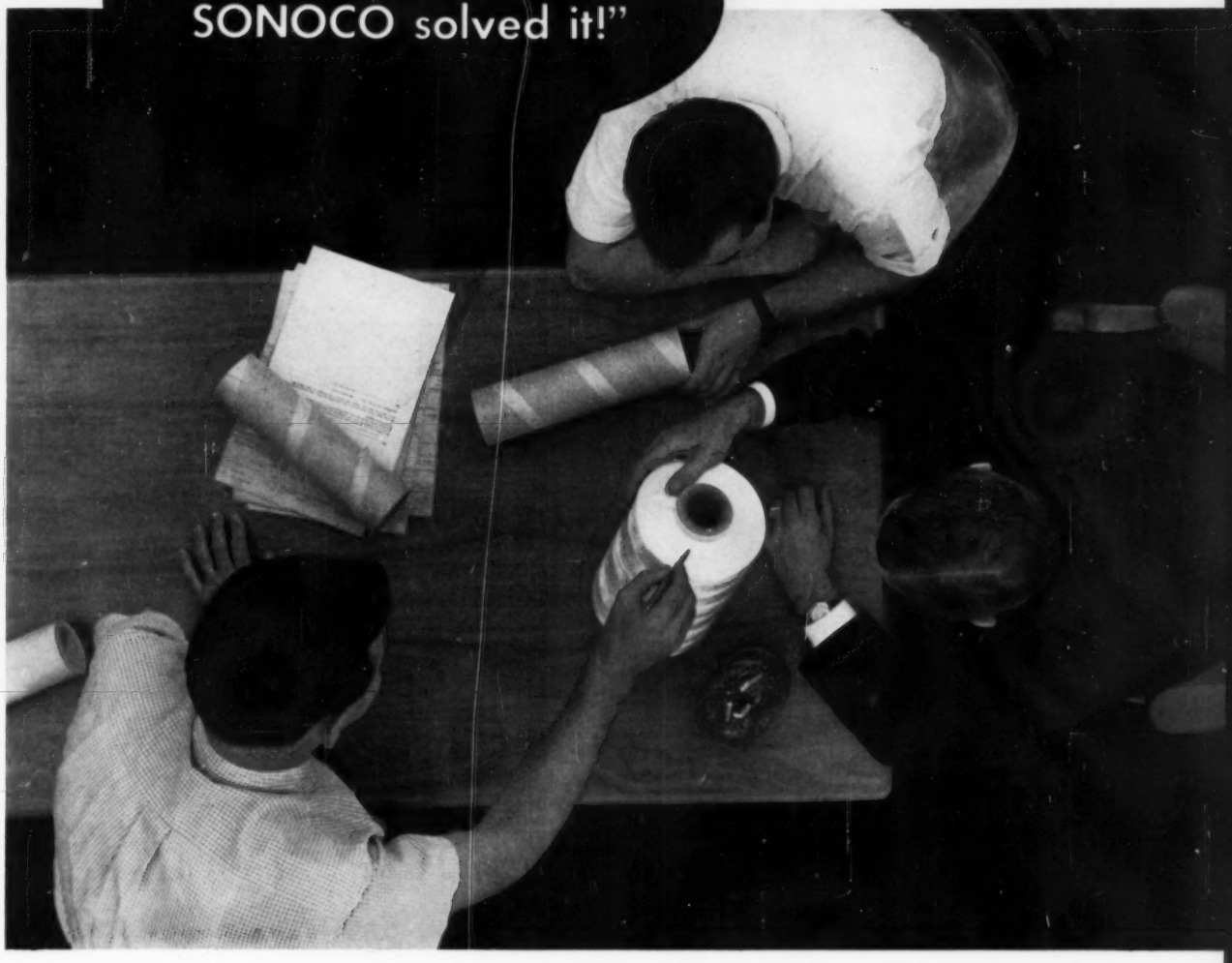


Sealed roller plunger actuator (A) can be adjusted horizontally through 360° permitting operation from any direction. Actuator shaft is protected by internal O-ring seal. Flexible coil spring actuator (B) can be operated from any angle except direct pull.

MICRO SWITCH . . . FREEPORT, ILLINOIS
A division of Honeywell
In Canada: Honeywell Controls Limited, Toronto 17, Ontario

Honeywell
MICRO SWITCH Precision Switches

"We had a problem . . .
SONOCO solved it!"



THE NEED: Strong, non-returnable cores for heavy denier nylon

For winding heavy denier nylon yarn, exceedingly strong, non-returnable cores were required. These cores had to be capable of withstanding the constrictive force of the yarn which could cause the core to bind on the spindle, making it hard to doff. Furthermore, the cores had to be strong enough to withstand any wall compression, which might occur after winding, since this would interfere with the delivery of the yarn. These cores also had to possess a surface which would prevent slippage in the primary winding.

Sonoco sales engineers, along with the research and development departments, immediately undertook to solve this complex problem. The solution was found through the right combination of paper, adhesives and core construction. As a result, cores which meet and exceed the demanding requirements are now available from Sonoco.

Only Sonoco, with 60 years' experience, plus modern research and completely integrated manufacturing facilities, could solve this problem quickly. It is typical of countless cases where Sonoco technical and production "know-how" has benefited the industry. *Let Sonoco experience help you!*

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RIGID PRODUCTS

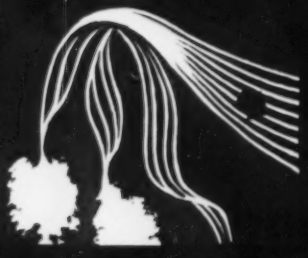
Our 60th year
1899 - 1959

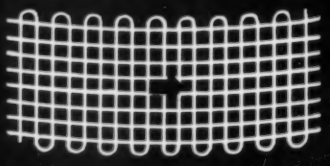
SONOCO
Products for Textiles

SONOCO PRODUCTS COMPANY

Main Office—Hartsville, S. C. • Mystic, Conn. • Akron, Ind. • Lowell, Mass. • Phillipsburg, N. J. • Longview, Texas • Philadelphia, Pa. • La Puente, Cal. • Fremont, Cal. • Atlanta, Ga. • Granby, Quebec • Brantford, Ontario • Mexico,

CIRCLE 32 ON READER SERVICE CARD





UNIONMATEX

INGOLSTADT:

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LEINEWEFERS:

MONFORTS:

INIONMATEX

Guaranteed

Let This Front Roll pay EXTRA DIVIDENDS on your spinning...

Enduring dependability is a designed-in quality of every Dixon Engineered Changeover, best illustrated by our patented, self-aligning front roll. Here indeed is superior design which will produce superior performance and *fast pay-back* in your mill, as it has in other competition-conscious mills* throughout the country.

1. Dixon Front Roll bearings are made from high carbon steel, races and balls hardened, ground, and polished. Here's top quality that can carry a real GUARANTEE.
2. Dixon Front Roll deep groove bearing is pre-lubed — NEVER NEEDS RELUBRICATION!
3. Dixon Front Roll contact-seals hug the races—stop lint, hold grease.
4. In Dixon Front Roll, the inner bearing race rotates — travels less distance — bearings last longer.
5. Dixon Front Roll cots are heavy-walled — give maximum load-carrying ability, permanent bond to arbor, and additional cushioning.
6. Dixon Front Roll cots are synchronized. They're easier to strip, and need no special buffing or repair equipment.

Best of all, the Dixon Front Roll is the quickest and lowest cost way to start your full Saddle Guide Changeover program. By installing self-aligning Front Rolls and Saddles and eliminating front cap bars, you remove immediately a major source of lubrication and cleaning. You reduce ends down and improve evenness. You're also well on your way to a complete oil-free and cap-bar-free center-suspension changeover.

Ask for our detailed report showing how an actual Dixon Engineered Changeover installation paid for itself in 25 months and is now saving $1.50 per spindle per year. **Dixon Corporation, Bristol, Rhode Island.** Southern Sales: Dunson & New, Inc.: Box 9202, Greensboro, N. C.; Box 321, Greenville, S. C.; Box 445, West Point, Ga.

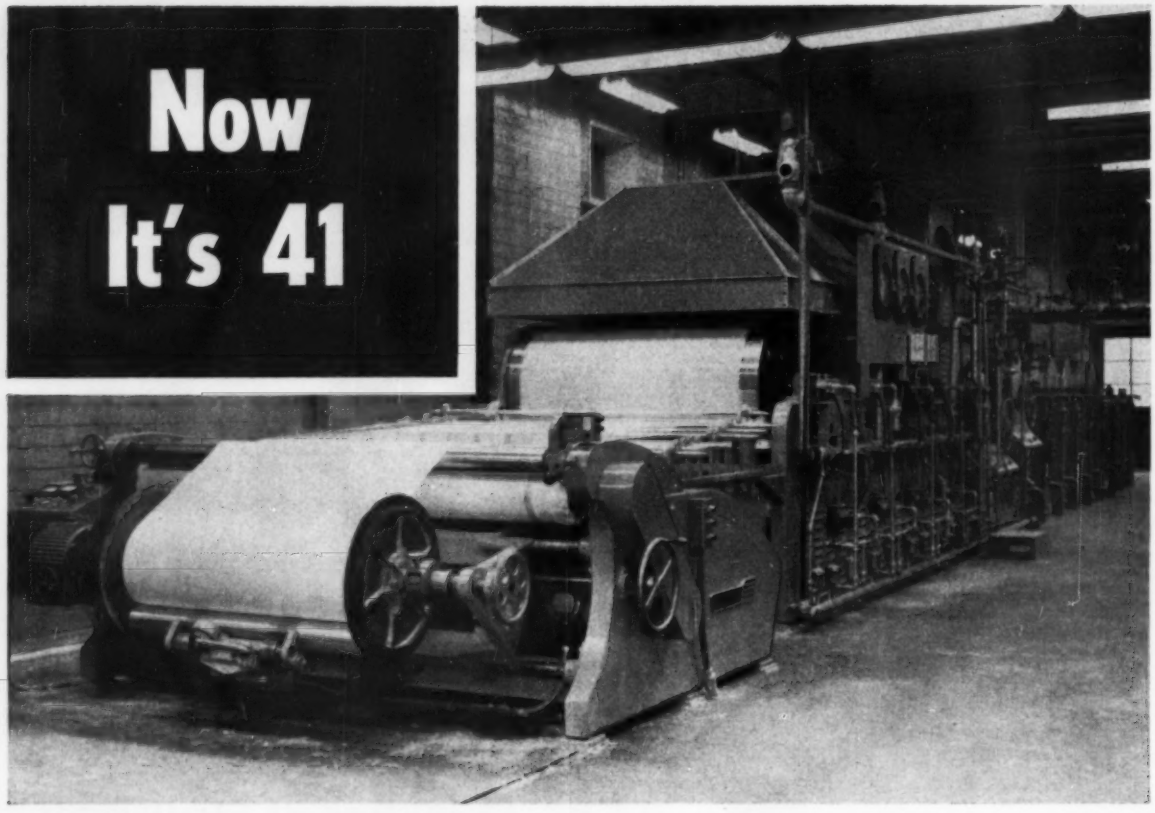
*To mention a few

Mill	Spindles	System
American & Efird Mills, Inc.	31,078	Double Apron Casablancas
Johnston Mfg. Co.	20,756	Double Apron Casablancas
Carlton Mills	100,504	Double Apron Casablancas
Chicopee Manufacturing Corp.	272,032	Double Apron Roth and Casablancas

Dixon

Engineered devices for weighting and guiding top rolls since 1876

Now It's 41



A Complete Cocker GH Slasher Installation

The Cocker GH Slasher

27 Cocker GH Slashers have been installed since the Greenville Exhibition. 14 more are on order. One mill ordered five more after the first installation met all of the exceptional claims Cocker had made for it.

The Cocker GH Slashers already in operation prove that this model is unquestionably in a class by itself . . . in production . . . in moisture regain . . . in size penetration . . . and in increased weave room efficiency and slasher operating efficiency — the World's most modern, most efficient, and most economical slasher.

Write for full information today.

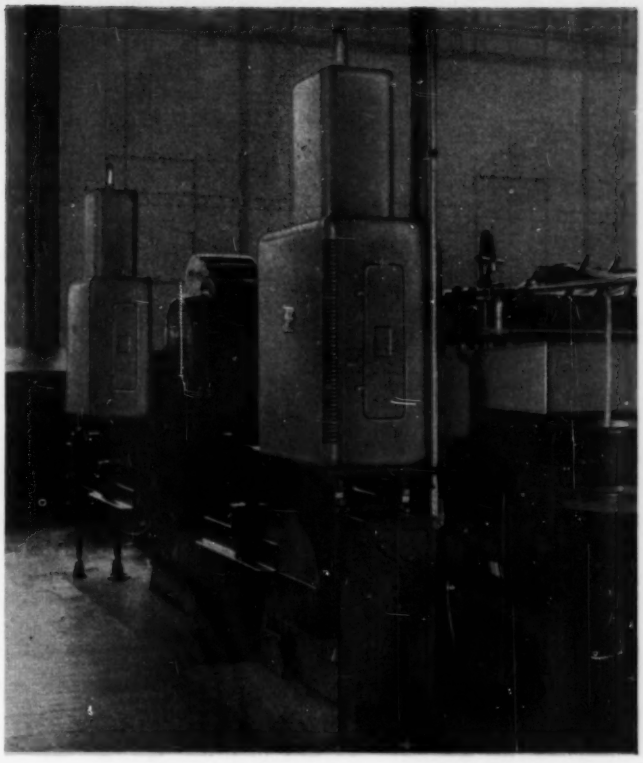
COCKER MACHINE & FOUNDRY COMPANY

IN CANADA:
Contact W. S. Clark
Montreal, Canada
Oxford 7-2242

PLANT & OFFICES
at Ranlo, N. C.
MAILING ADDRESS
Gastonia, N. C.

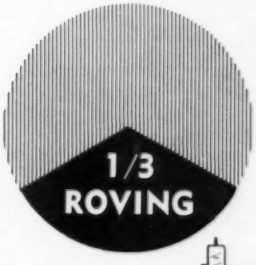
WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

Here's how PNEUMASTOP pays off!



PNEUMASTOP air-cleans and preconditions each strand of roving with ten cubic feet of air per minute. Moisture is added and loose lint and trash are removed to assure *clean, better running* roving on the spinning frame.

Exhaustive ends down tests comparing "PNEUMASTOP quality roving" with ordinary roving prove that *savings* in spinning costs *alone* will pay two-thirds of PNEUMASTOP'S cost in just one year.



PNEUMASTOP'S dual stop motion stops the frame on creel breaks and sliver run-outs *instantly*, leaving a piecing tail. Broken ends are under control at all times, (even during traverse change) and flyer picking and cleaning time is substantially reduced. These *exclusive* features allow roving tenders to handle more frames than with any other type of stop motion!

Remember this!

One set of PNEUMASTOP

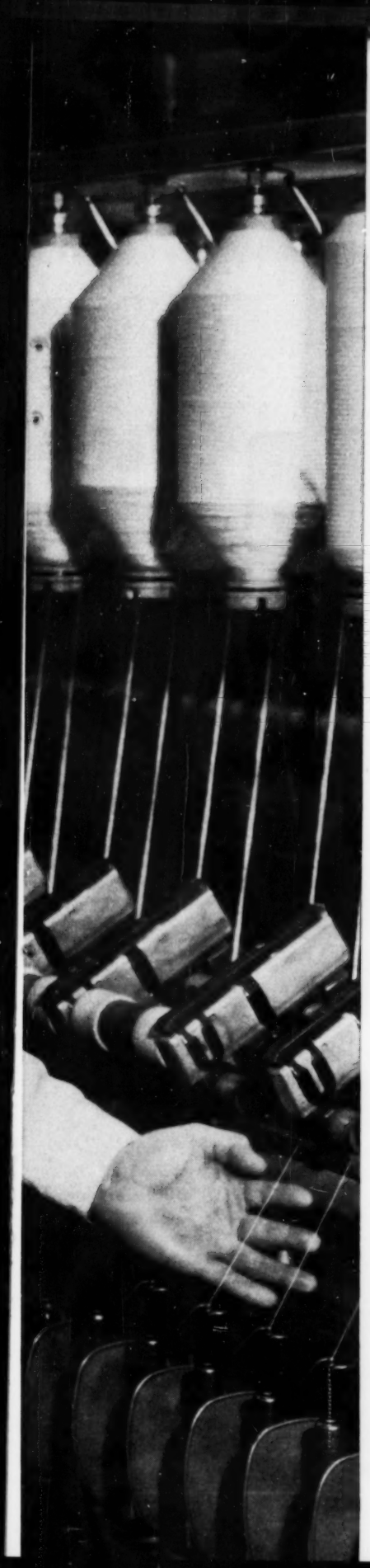
improves the running quality of ten spinning frames in the average mill.

For more information please contact . . .

PNEUMAFIL CORPORATION

CHARLOTTE 8, NORTH CAROLINA

©Pneumafil Corp. 1959



Mr. A. M. Federline, Overseer
of Spinning at Startex Mills, Startex, S. C.,
discusses yarn quality with
Armstrong representative Paul Rosser.

Your Armstrong man can help you select the right Accotex Cot for top production of quality yarns

As every mill man knows, each fiber and blend presents different problems in spinning—problems that can vary on different drafting systems. As a result, there can be no one cot material that will work equally well on every combination of frame and fiber. That makes the selection of the right cot important to your getting maximum production of quality yarn.

The training and wide experience of your Armstrong man can be helpful in picking the right spinning cot for your specific mill conditions. He can make dependable recommendations based on the wide range of materials available in the Accotex line.

For example, if your lap-up rate is increasing, new Accotex anti-static cots may give you the help you need. Where eyebrowing is a problem on spinning and roving frames with flat clearers, a switch to Accotex NC-762 Cots will help to eliminate it.

On some drafting systems, a softer cot material has been found to improve break strength and reduce yarn irregularities. Accotex Cots made of softer compounds are available to meet this need.

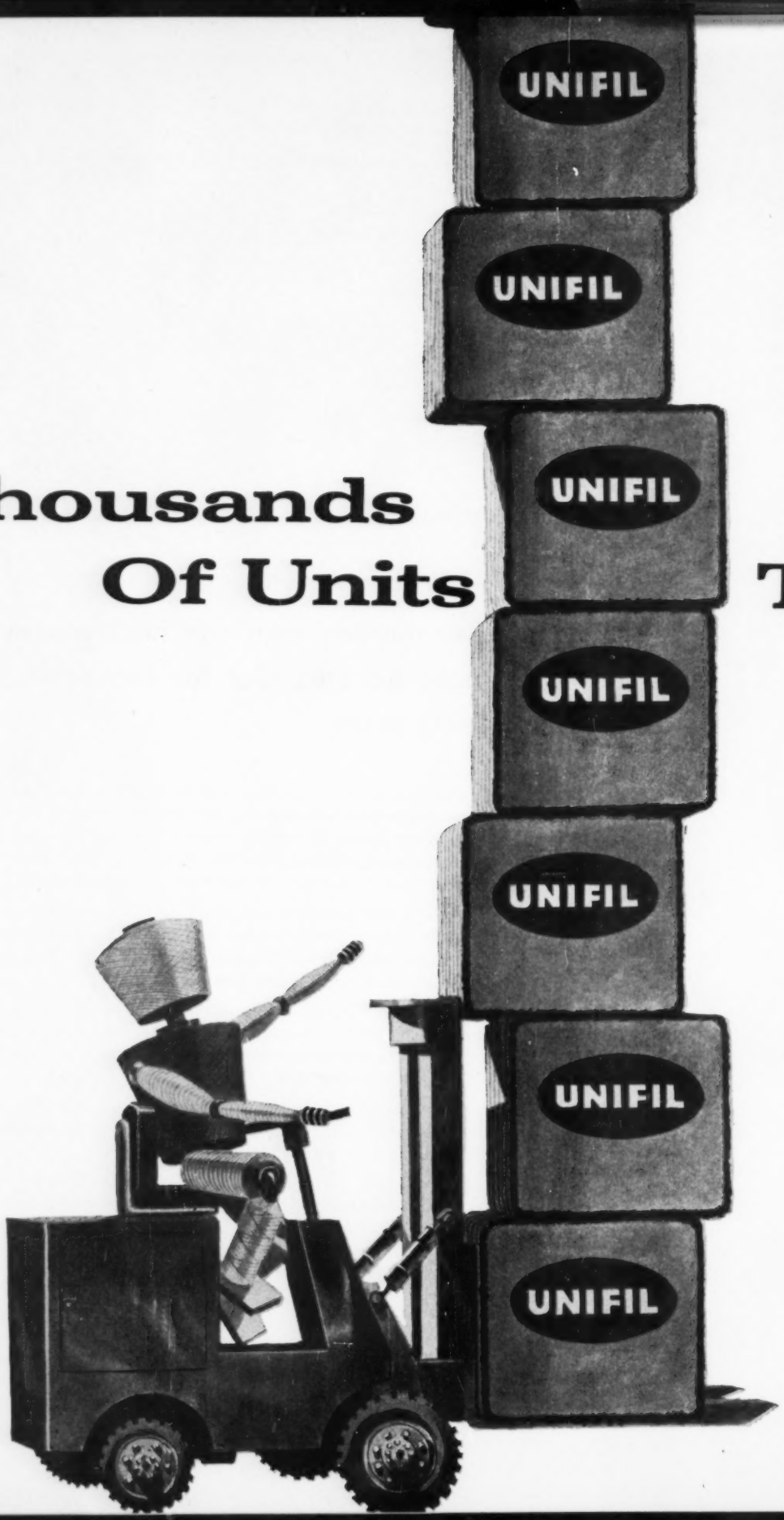
On any frame . . . with any fiber or blend . . . Accotex Cots will help you get maximum production of quality yarn. Your Armstrong man will be glad to help you select the right roll cover for best performance on your frames. Call him or write to Armstrong Cork Company, Industrial Division, 6511 Dauphin Street, Lancaster, Pennsylvania.

Armstrong ACCOTEX COTS

. . . used wherever performance counts

CIRCLE 37 ON READER SERVICE CARD

Thousands Of Units To



Leading Textile Mills...

More and more modern mills are turning to UNIFIL® Loom Winders as the proved approach to better economy and higher productivity. Most of these mills first learn about the outstanding advantages of UNIFIL Loom Winders through a Leesona "Profit Factor Analysis". This detailed analysis of filling yarn preparation methods, carried out by Leesona Engineers, shows mill management exactly how UNIFIL Loom Winders can prove these analyses correct . . . and reorders follow *fast!*

This extra performance by UNIFIL Loom Winders is what you can expect . . . they bring the entire process of filling yarn preparation to the loom. UNIFIL Loom Winders provide all the advantages of weaving-from-a-cone . . . on all counts and types of yarns, both cotton and synthetic. For example, they greatly improve the quality of fabrics woven from fine yarns . . . give fabrics with textured yarn filling a uniformity not possible before. And savings in production costs quickly pay for UNIFIL Loom Winders.

Let a "Profit Factor Analysis" show you how UNIFIL Loom Winders can improve weaving and profits in *your* mill. Ask your Leesona Sales Engineer in Boston, Philadelphia, Charlotte, Atlanta, or Los Angeles. In Canada: Montreal or Hamilton. Or write LEESONA CORPORATION, P. O. Box 1605, Providence 1, Rhode Island.

Here are just a few of many modern mills which are saving with UNIFIL Loom Winders:

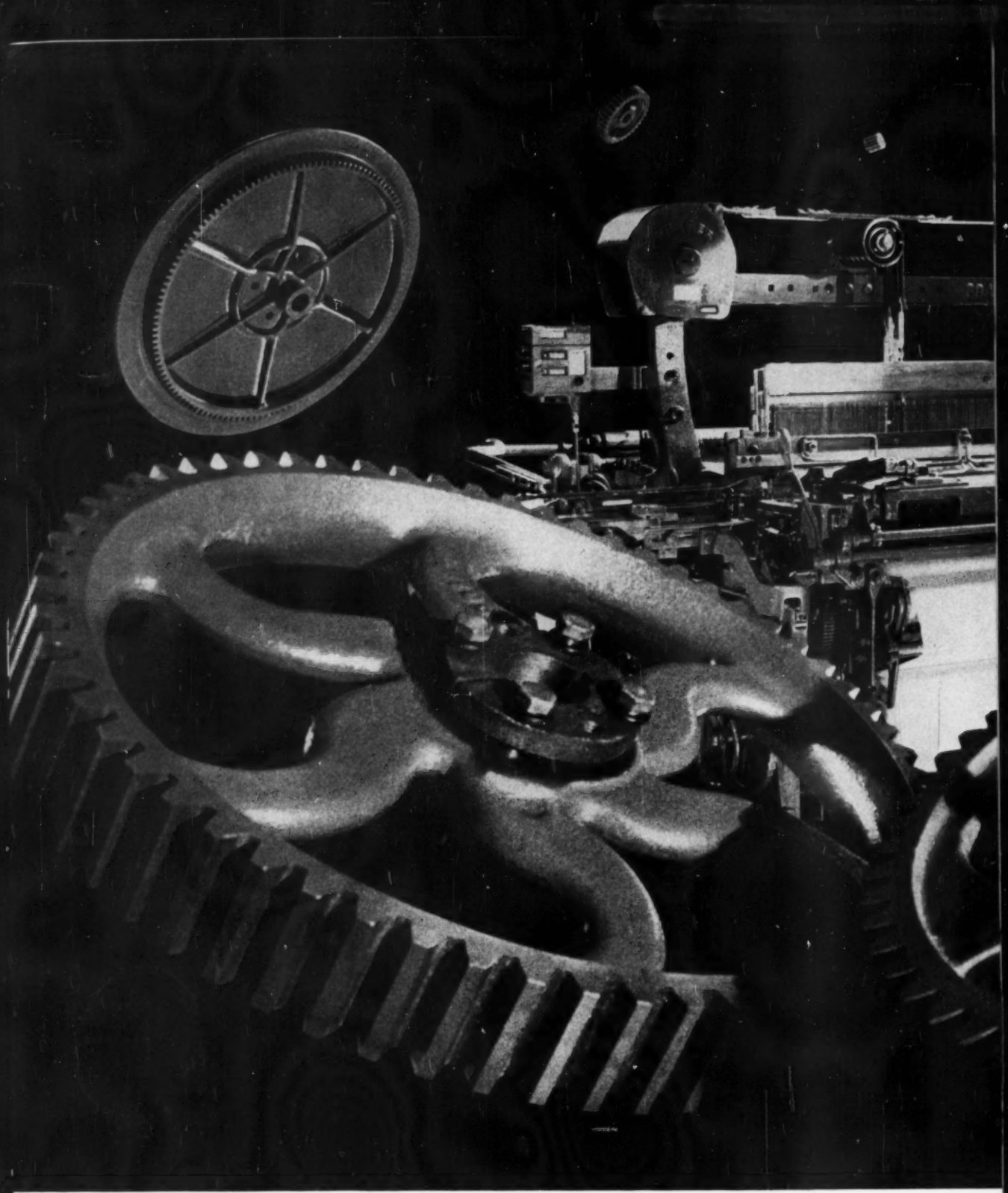
AMEROTRON CORPORATION
BERKSHIRE HATHAWAY INC.
BURLINGTON INDUSTRIES, INC.
CANNON MILLS CO.
BEMIS BRO. BAG CO.
PONEMAH MILLS
DRAYTON MILLS, INC.
JUDSON MILLS
UNITED MERCHANTS & MFRS., INC.
GLEN RAVEN SILK MILLS, INC.
EXPOSITION COTTON MILLS
GREENWOOD MILLS
FRANK IX & SONS, INC.
MARION MFG. COMPANY
WILLIAM SKINNER & SONS
J. P. STEVENS & CO., INC.

LEESONA

Versatility with Any Filling Supply

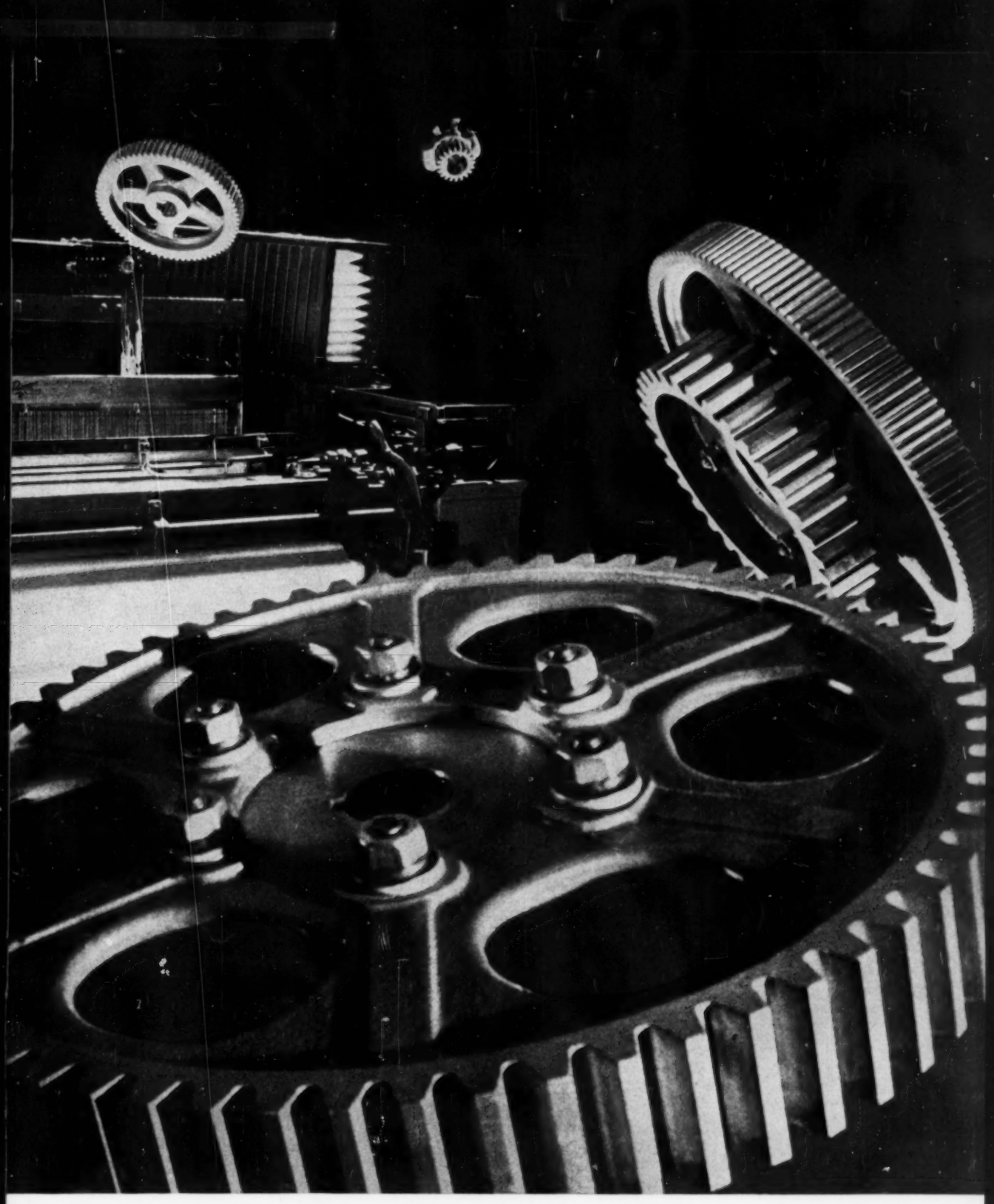
UNIFIL *is a registered trade-mark of Leesona Corporation*

CIRCLE 39 ON READER SERVICE CARD



There are over 30 gears on a Hi-Speed Draper X-2 Model Loom*. Each is of a different shape and size, and contributes in some way to the efficiency and operation of the loom. Draper gears are designed and manufactured to

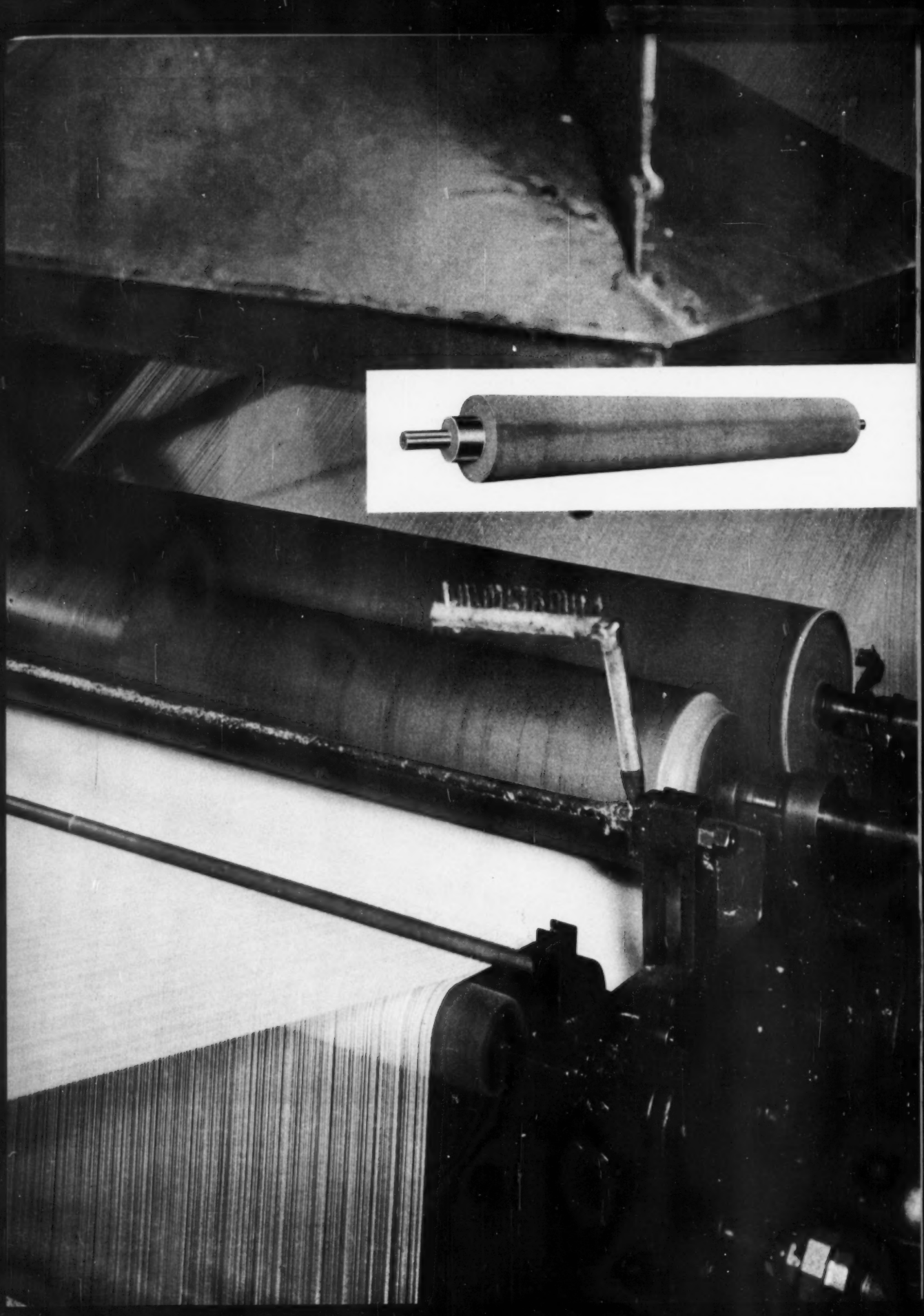
*Average X-2 Model



fit the Draper Looms in your mill. Draper gears cost less . . . because they wear longer, reduce down time and increase loom production.

DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N. C. • SPARTANBURG, S. C.



RUN PERFECT

Warps at Lower Cost

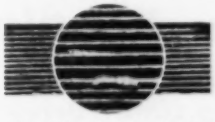
with Dayco Thoro-size Slasher Rolls

EFFICIENT SIZING is automatic with Dayco Thoro-size Slasher Rolls. Their perfectly resilient surface insures accurate, consistent metering of just the right amount of starch for smooth, clean sizing. There's no waste, for the excess is squeegeed back into the tank for re-use.

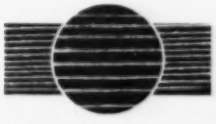
TROUBLE-FREE OPERATION gives you up to 45% greater production. Time-saving Dayco Slasher Rolls have no cover or blankets to change or become hard . . . never need warming up . . . stay in place while you're changing sets.

PAID FOR IN 6 MONTHS, through savings in time and materials, Dayco Thoro-size Slasher Rolls can be reground after a year or more of service to restore their like-new condition. This economy feature, plus the fact that they are unaffected by oils or chemicals, adds years to the life of your Dayco Rolls.

LOOK! NO LAP MARKS or flattened yarn, all due to the seamless construction of Dayco Thoro-size Slasher Rolls. The result is a flawless surface free of streaks and spots. Make your own comparison from the samples shown.



Irregular sizing denotes inadequate control of ordinary slasher rolls



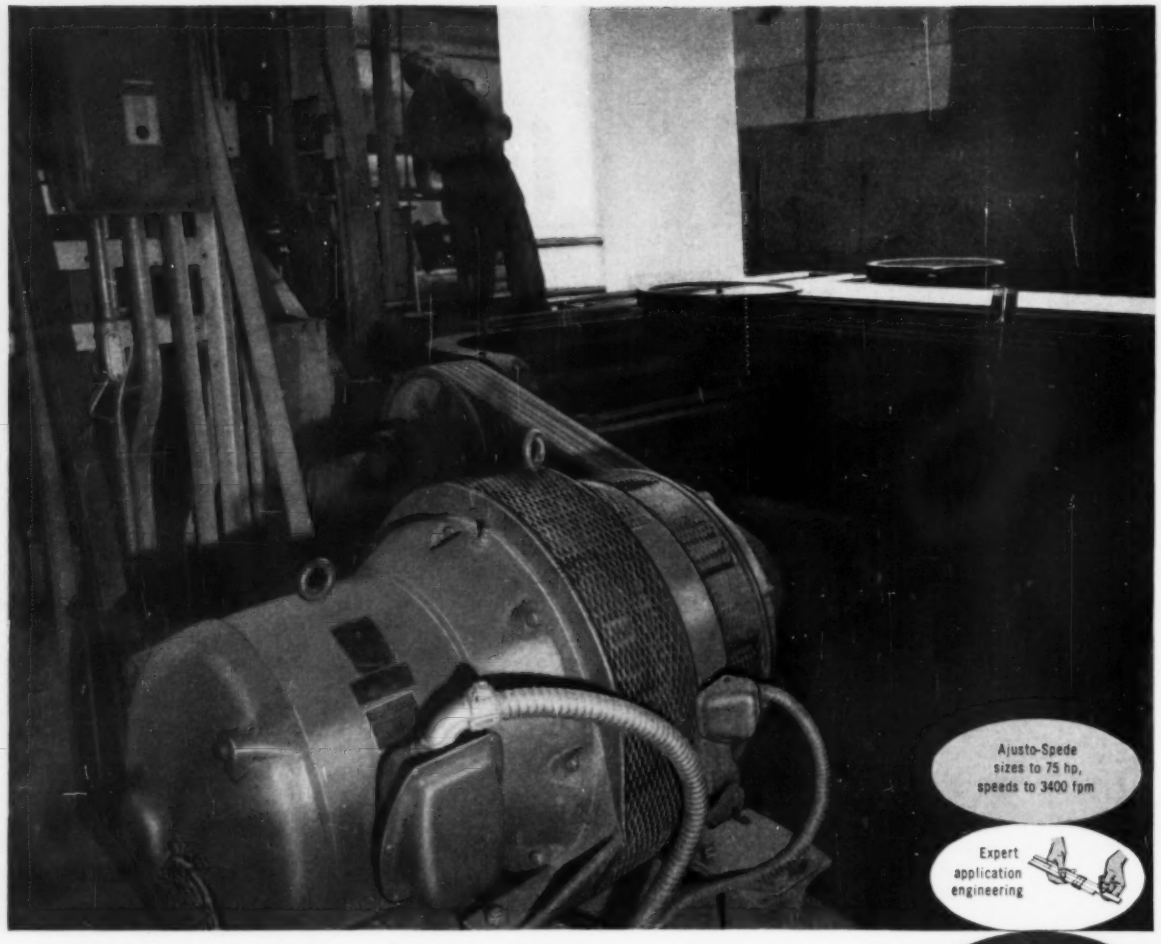
Clean, uniform sizing proves superior performance of Dayco slasher rolls

Get the full story on how you can save time and money while improving your slashing quality. Ask the Dayton Representative next time he calls or write The Dayton Rubber Company, 401 S. C. Nat'l Bank Bldg., Greenville, S. C.

Dayton Rubber

Dayco and Thorobred Textile Products for Better Spinning and Weaving.

CIRCLE 43 ON READER SERVICE CARD



Heavy duck or filmy scrim –range handles both with equal ease!

Louis Allis Ajusto-Spede® Drives control speed and tension— cut set-up time—drive ranges on two floors individually or as one!

Here's range-drive engineering that can revolutionize *your* cloth processing! This unique set-up for finishing bag cloth typifies the efficiency and flexibility that Louis Allis engineering and products provide for new mills — or for putting existing ones on a sound paying basis.

This remarkable range handles every type of cloth — from very heavy enameling duck down to filmy scrim — at speeds from 35 to 200 yards per minute. The Ajusto-Spede drives, like the 40-hp unit shown, furnish the right speed and tension for every step of the process.

Drives respond quickly, positively — change speeds softly and gradually. This precise control assures that every foot of cloth is uniformly wide — that it gets the exact amount of starch or filler — that it is properly dried, finished, and wound. The result: Faster processing, fewer breaks, and negligible waste.

The flexibility of operation is equally amazing. The installation consists of a two-motor range on the first floor and a three-motor range on the second floor. Each range can be run separately — or they can be combined into a single five-motor range with the flip of a switch. Changing from heavy to light cloth requires little set-up time. Commutation upkeep has been eliminated.

For modernizing — or a new installation — consult Louis Allis *first!* You'll get the best in products and engineering from a proven and respected source. Contact your Louis Allis District Office, or write The Louis Allis Co., 443 East Stewart Street, Milwaukee 1, Wisconsin.

LOUIS ALLIS

TE-112

MANUFACTURER OF ELECTRIC MOTORS AND ADJUSTABLE SPEED DRIVES

YOU GET MORE KNOW-HOW WHEN YOUR "SPECS" READ HYATT

because HYATT has built *millions* more cylindrical roller bearings than anyone else for two thirds of a century. And every year for the last 67 years we have learned to make them run longer, smoother, more reliably. Remember, *no bearings carry radial loads like cylindrical bearings—and nobody knows them like HYATT.* Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

HYATT *HY-ROLL BEARINGS*

IN ROLLER BEARINGS HYATT IS THE WORD FOR GM RELIABILITY

CIRCLE 45 ON READER SERVICE CARD

INTRODUCING... the PIEDMONT AMERICAN SYSTEM Spinning Frame

20-30% Higher Production!

The new Whitin PIEDMONT* AMERICAN SYSTEM* Spinning frame provides the highest standards ever attainable in producing worsted, synthetic and blended yarns. The thoroughly proven Whitin LONG-DRAFT* two apron system and a new, efficient top arm are mounted on the chassis of the advanced type PIEDMONT chassis.

It offers production speeds up to 20-30% higher than now used, with traverses up to 11".

FEATURES

- Narrow width — 27"
- Individual spindle drive from side shafts
- Straight line spinning
- Scientific balloon control rings
- Independent and reverse twist arrangement
- Simplified gearing, new builder
- Built-in system for waste-removal and dispersing motor heat

The PIEDMONT Model KW Spinning frame requires less floor space, far less cleaning and maintenance, is clean running, providing optimum spin. Investigate now and get maximum profits in your mill!

*TRADEMARK

WHITIN MACHINE WORKS

WHITINSVILLE MASSACHUSETTS

CHARLOTTE, N. C.

GREENSBORO, N. C. • ATLANTA, GA.

SPARTANBURG, S. C. • DEXTER, ME.

Shopping the World for Equipment

In this issue, TEXTILE WORLD reports on the Milan show, held in Milan, Italy, in mid-September. This marks the sixth European textile-machinery show we have attended and reported in the thirteen years that shows have been held since World War II.

In those thirteen years and six shows, the textile-equipment picture has undergone drastic change. There were almost no U.S. mill men present at the early shows—1947, 1949, and the first International Exhibition at Lille in 1951. There was a handful of Americans at Manchester in 1953 and a double handful at Brussels in 1955. But this year in Milan several hundred U.S. mill men attended, looked, and bought foreign-made equipment and many foreign mill men saw and bought U.S.-made equipment.

For the United States, the true significance of the Milan show was the fact that the barriers of national borders and of the Atlantic Ocean have been wiped out. In a few years we will see a great many more U.S. mills with U.S. and European machinery running side by side and a great many more fully equipped with European machinery. Also, all over the world we will see many, many mills equipped with machinery bearing joint U.S.-European nameplates.

It is appropriate therefore that U.S. mill men at all levels take a fresh look at the true state of things and, if they haven't already, bring their viewpoints up to date.

Facts To Remember

A few things that need to be generally recognized are:

1. Important developments occur everywhere.

Now and then a public statement is made, or even a report published, to the effect that one country is ahead or behind another in textile developments. That's a lot of nonsense, as foolish as saying green is a better color for all purposes than yellow.

Textile developments are never new discoveries. They are worked out painstakingly from what already exists and is already commercially successful. Every one of them is made to fill a need, but the need may vary according to mill circumstances. A classic example is big spinning packages versus spindle speed. Another is machine cost versus labor cost.

Machine developments are made as an investment, with a specific market in mind. If one market differs from another, it is nonsense to say that the developments in one of those markets is "ahead" or "behind" the other.

2. Cost advantage may or may not exist.

There is a widely held opinion that European machinery is much less expensive than American machinery. This is another half-truth that leads to ridiculous statements. Again, it's like saying green is a less-expensive color than yellow.

The costs of steel and labor in U.S. equipment are higher than in European, but transport and duty costs are higher in European equipment than in U.S. equipment and sales costs may be higher. In the cases of some equipment, transport costs alone are prohibitive. In other cases, they are not.

General statements about relative costs are meaningless to a mill. A mill buys a specific piece of equipment to do a specific job. It does not buy steel and labor or transport and duty costs as such.

3. Cost-plus-quality is the judging ratio.

One thing was abundantly evident at the Milan show: cost and quality more often than not are opposing factors. Almost every major type of machinery came at three levels: top quality at top price, medium quality at medium price, and low quality at low price.

Every machinery manufacturer in the world knows how to build machinery in all of these three categories. Which category a given company in a given country builds depends entirely on what its mill customers must have to meet manufacturing and market conditions. One thing is certain: nobody is going to get top-quality machinery at low-quality prices. Like automobiles, you can't buy a Cadillac for the price of a Ford.

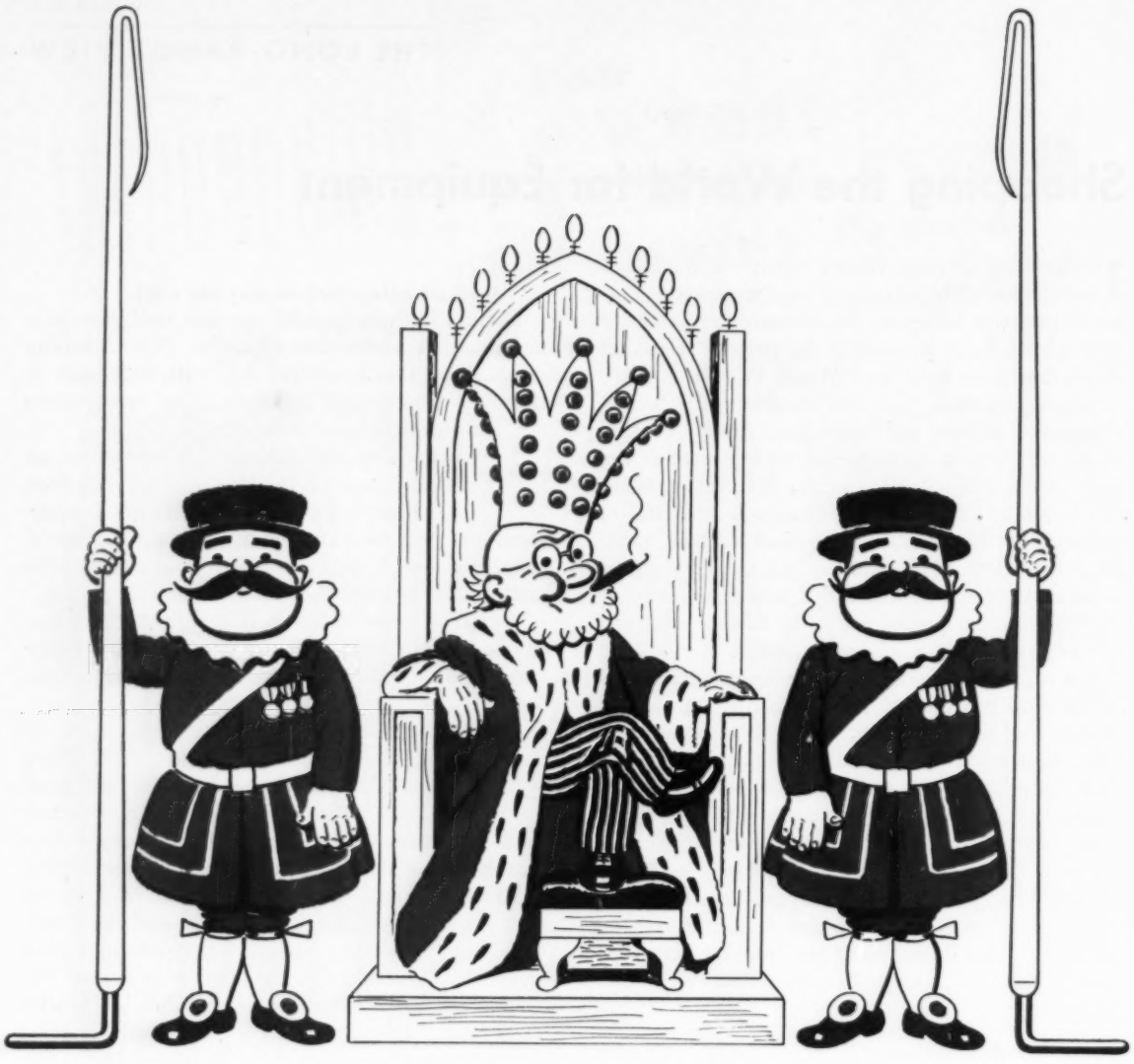
World Choice Now Possible

What it all amounts to is that selecting and buying textile equipment has now entered a new phase. The threat of war as we have known it in the past is no longer a deterrent to buying machinery and equipment built anywhere in the world.

But mills will be able to tell little difference. They still will be forced to select and buy by the cost-plus-quality ratio dictated by their markets and manufacturing and maintenance costs.

Any talk about a great bonanza, about getting top-quality equipment at low-quality prices, is nonsense.

J. M. Thomas



Uniform . . . in every way

Textile Spring-Beard Needles help keep your knitting costs down. Made to one high standard — needle after needle — stems, sides, backs and beards are always completely uniform. Their strength, straightness and resiliency help your machines produce consistently high quality fabrics. You'll get dependable knitting results with Textile Spring-Beard Needles, Flat Stock and Leaded Assemblies.

Wire Products Division
TEXTILE MACHINE WORKS • READING • PENNA.
In the South: Asheboro, N.C. In the North: Manchester, N.H.
Builders of Textile Machinery Since 1900

Textile SPRING-BEARD NEEDLES

The "Reading" CK-A Circular Knitting Machine • The "Reading" Tricot Machine • The "Reading" Full-Fashioned Knitting Machine
The "Reading" Full-Fashioned Outerwear Machine • The "Reading" Braiding Machine • Textile Spring-Beard Needles • Arrow Latch Needles

Tuition Supplements —

One Good Way To Help Our Colleges And Universities

The business community has made an impressive start in going to the desperately needed financial aid of our colleges and universities. Business contributions to higher education have increased from only $40 million in 1950 to $136 million in 1958.

This rise in financial aid to higher education should be a great source of satisfaction to the business community. But it goes only part way toward meeting the growing needs of colleges and universities for financial help. Over the next ten years business aid to our privately supported colleges and universities alone must increase to at least $500 million a year merely to provide decent faculty salaries and meet the increased operating costs of taking care of enrollments that will almost double.

One pervasive reason why many business firms have not joined the ranks of the companies contributing to higher education seems to be that, in the interest of prestige and public relations, they are making their provision of aid contingent upon finding some particularly novel way of providing it. So long as this point of view persists, business aid will lag, for there are simply not enough ways of providing financial aid that are both notably novel and sensible.*

How The Plan Works

There are, however, some well-tested ways of providing aid which improve rather than fade in appeal with more using. One such way is the making of supplemental tuition payments to colleges and universities at which a company's employees take courses.

Many companies have scholarship or tuition-refund programs which cover all or part of the costs to their *employees* of taking college courses. But, in most colleges and universities, tuition charges fall far short of covering the full cost of the education given. By making an unrestricted "cost-of-education" grant a part of their employee scholarship or tuition-refund plans, these companies could make a material contribution toward covering the *college's* full costs as well.

The tuition supplement can be a fixed amount or a percentage of the tuition charged. Some plans provide for supplements as high as 100% of tuition, though there is usually an upper limit to the total supplemental payment given for each employee enrolled in the institution.

The plan seems to have originated with the Ford Motor Company Fund. When we at McGraw-Hill first learned of it, it appealed to us as having so many advantages, and so few disadvantages, that we adopted it as one part of our own program of financial aid.

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*The efforts of the McGraw-Hill Publishing Company to find a suitable method of aiding higher education prompted the writing of a "more or less Socratic dialog" entitled *A Business Wrestling with the Problem of Aid to Colleges and Universities*. Copies of this pamphlet, which underlines the difficulty of finding both a novel and satisfactory method of providing aid, are available on request.

HOW THE HEADS OF SOME OF THE INSTITUTIONS TO WHICH McGRAW-HILL HAS MADE GRANTS FEEL ABOUT THE TUITION SUPPLEMENT PLAN

"We are pleased not only because this addition to the never adequate supply of non-earmarked funds is a most welcome one, but also because it attests to the fact that the employees of our neighboring business firms are benefiting from the courses we offer at times convenient for them. We hope this mutually beneficial plan may continue and grow with the years."

Grayson Kirk, President
Columbia University

"I shall take this occasion to express deep sentiments of appreciation, in my own name and in the name of the members of the Board of Trustees, for the very effective manner in which your corporation is aiding higher education by the payments made under your tuition supplement plan. Certainly your action is indicative of the fact that you realize industry and higher education must join forces to preserve the basic American system of free enterprise."

Very Reverend John A. Flynn, C.M.
President, St. John's University

"The growing recognition by business and industry of the financial needs and important services rendered to the community by the colleges and universities is most encouraging, and Temple University is deeply appreciative of the fine support extended through McGraw-Hill's program of supplementary grants."

Robert L. Johnson, President
Temple University

The Plan's Advantages

The main advantages of the tuition supplement plan are:

- **It is simple and easily administered.** Payments can be made when scholarships or tuition refunds are granted, or at another time convenient to the company.
- **It relieves the company of the difficult and sometimes disagreeable task of choosing one college rather than another.** The individual employee makes the choice.
- **It directly serves the interest of the company by encouraging and aiding the institutions where its employees take courses.** In a sense, the company makes contributions in direct proportion to the value it receives in education for its employees.
- **It directly serves the interest of the colleges and universities receiving the grants by getting money to them in the form most appreciated**—unrestricted funds to be used at the discretion of their administrators.

Largely because tuition supplements are unrestricted as to use, this plan enjoys the unqualified approval and gratitude of the schools receiving such aid. This is not true of some of the other plans for granting aid to colleges and universities.

Tuition supplements, of course, can't be regarded as large efforts relative to the need of higher education and the responsibilities of business. But they are a very practical and useful first step, involving almost no problems. If you are not familiar with the idea of supplemental grants, why not discuss it with some of your friends in the field of higher education?

The Price Of Novelty

Our experience with tuition supplements indicates that this is an excellent plan, and we are glad to recommend it to other companies looking for an effective method of providing financial aid to higher education.

At any rate, we hope that business firms will not postpone granting financial aid until they find some novel way of doing it. If they do, it will be another case of too little and too late.

This message is one of a series prepared by the McGraw-Hill Department of Economics to help increase public knowledge and understanding of important nation-wide developments. Permission is freely extended to newspapers, groups or individuals to quote or reprint all or parts of the text.

Donald C. McGraw
PRESIDENT
McGRAW-HILL PUBLISHING COMPANY, INC.

Report on—

THE MILAN SHOW

By P. M. THOMAS, Editor and Publisher, TEXTILE WORLD

A LOOK DOWN THE AISLES of Bldg. G, which housed most of the carding and spinning exhibits at the Milan show.

THE WORLD'S TEXTILE MACHINERY AND EQUIPMENT were on display at the Milan Textile Show, officially called the Third International Textile Exhibition, in Milan, Italy, in September.

Called by many the biggest textile exhibition ever held and judged to be one-third larger than the Second International show in Brussels in 1955, the show was variously described as "tremendous," "terrific," "confusing," "overwhelming."

The official count showed 636 exhibitors. Few of these exhibitors displayed only one, two, or three machines. Most of them exhibited half a dozen, 10, or in some cases as many as 20. Therefore the exhibition, sprawling over several buildings specifically constructed for exhibitions by the city of Milan, put on display several thousand textile machines and pieces of auxiliary textile equipment.

Textile men poured into the exhibition from all over the world. Late in the show, the official estimate was that well over 155,000 visitors attended the show, over 30,000 from foreign countries and over 125,000 from Italy.

More than 500 U. S. visitors registered with the exhibition association, and many others attended without registering. This was by far the greatest U. S. attendance at any previous show held outside the States. Among the U. S. visitors were top men from nearly all the major textile-mill organizations.

With all the big U. S. equipment manufacturers among the 26 American firms exhibiting and most of the larger U. S. mill organizations represented among the visitors, by far the major selling power and buying power of the U. S. industry were represented.

With textile business good and improving in almost every textile country and mill men in a mood to shop around for equipment to update their operations, the Milan show must go in the record as perhaps the most commercially successful textile exhibition ever held.

New Developments

But judged on the basis of significant and major new developments, it is doubtful that the Milan show takes top honors. There were many new developments of varying degrees of significance; but in a count of major new developments in comparison with standard equipment shown, this show did not have the relative significance of the early postwar shows, for example Atlantic City in 1950 and Manchester in 1953.

By and large, Milan must be judged primarily as a sales show, not as a development show.

Machine Building Goes International

Perhaps the most significant thing evident at Milan was the prevalence of licensing arrangements. The manufacture and sale of textile machinery and equipment are now truly international operations.

Instead of the traditional pattern of each country building machinery and equipment for its domestic market and

scratching for export sales to increase business, the pattern now strongly in evidence is joint manufacturing and sales activity that jump right across national lines.

Whitin Machine Works, for example, showed three machines—a cotton spinning frame, a drawing frame, and a comber—built in Europe and identified by joint names: Stains-Whitin and IWK-Whitin.

Saco-Lowell showed a drawing frame built by Saco-Lowell but equipped with electronic controls made by Zellweger-Uster.

Roberts Co. showed frames built in the U. S. but shared sales honors with its new licensee in England, Hobourn Aero Components Ltd.

Crompton & Knowles showed a pick-and-pick automatic (PAPA) loom built in Turin, Italy, by Societa Nebiolo under license by C&K.

Even European companies are following the pattern but not to anything like the extent to which U. S. companies are following it.

New Quality of Finish

The new finish of textile machinery was one of the most striking things at Milan. Textile machinery now has a beauty that it has never had before. Machine after machine, which a few years ago had little more finish than a coat of green paint, is now finished with the sleek-

Next Show: Hanover in 1962

The next International Textile Exhibition, the fourth in the current series, is scheduled three years from now in Hanover, Germany, in 1962.

The complete series has ben reported by TEXTILE WORLD—

Lille, France, 1951, July 1951 issue of TEXTILE WORLD

Brussels, Belgium, 1955, September 1955 and October 1955 issues of TEXTILE WORLD

Milan, Italy, 1959, reported in this issue.

SACO-LOWELL TO SELL PICANOL LOOMS

The biggest news break that occurred during the Milan show was the announcement that Saco-Lowell will sell Picanol looms in the U. S. Here, Thomas J. Ault, left, president of Saco-Lowell, clinches the agreement with Emmanuel Steverlynck, president of Picanol.

THE PICANOL LOOMS. On exhibit at Milan were some of the Picanol President line of looms that will be sold in the U. S. by Saco-Lowell Shops. Included in the exhibit were:

A 118-in. sheeting loom running at 140 ppm.;

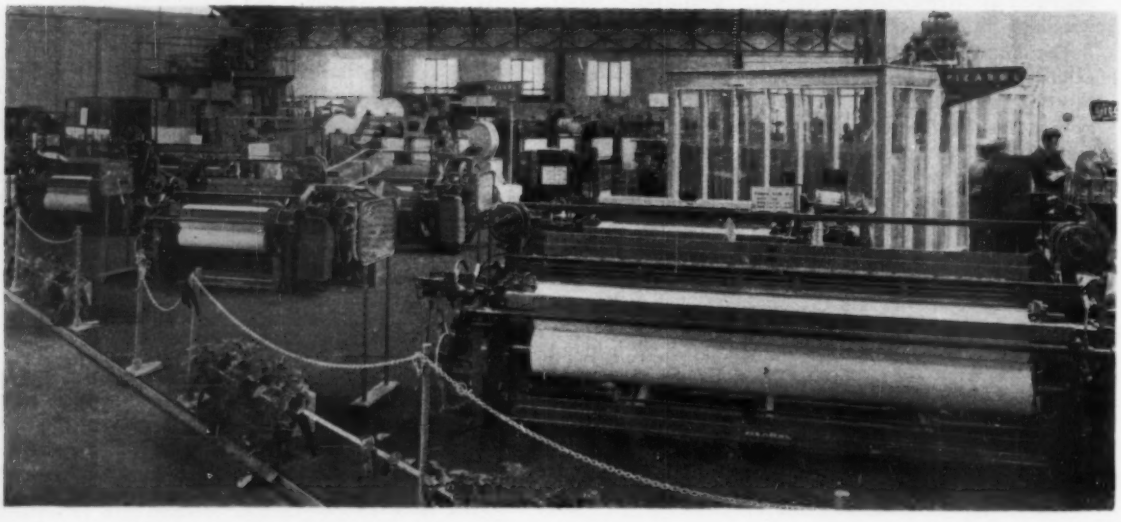
A 93-in. sheeting loom running at 170 ppm.;

A 69-in., 16-shaft dobby loom running at 180 ppm.;

A 48-in. corduroy loom equipped with Unifil running at 220 ppm.;

A 48-in. loom equipped with automatic-transfer box loader running at 240 ppm.; and

A 48-in poplin loom with a circular battery running at 260 ppm.



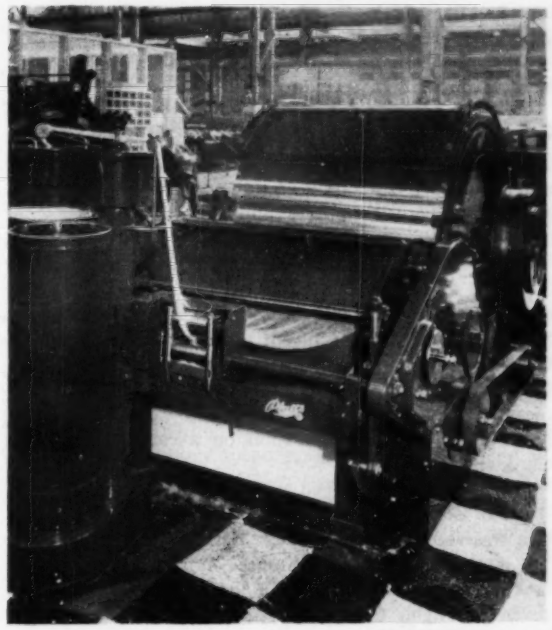
ness of line and decoration of a new-model car out of Detroit.

The new beauty, of course, adds nothing to the functional quality of the machinery; but it is another evidence of the slow evolution of the textile industry into a modern industry on a par with other manufacturing industries.

Evident also was the stronger part Spain is taking in the world textile picture. In no other international show were textile-machinery developments from Spain in such number or quality.

Spanish manufacturers exhibited equipment adapted to nearly every major trend in development: flatless cards, continuous card stripping, direct spinning, and shuttleless weaving.

CARDING



GRANULAR CARD shown by Platt Bros. (Sales) Ltd., Oldham, England. Fixed plates with granulated undersides work against the cylinder, replacing conventional flats. (U. S. agent, Atkinson, Haserick, Framingham, Mass.)

Cotton Cards—No Flats

One of the most striking trends in evidence at Milan was the change in cotton cards. After more than half a century of almost no change, the cotton card suddenly has been transformed.

The major change is the elimination of the revolving top flats. Two methods of doing that were shown at Milan.

One was the granular card developed by the Southern Regional Research Laboratory in New Orleans. This card was exhibited by Platt Bros. (Sales) Ltd., Oldham, England, and is being sold in the U. S. by Atkinson, Haserick, Framingham, Mass.

The other card, developed in Italy by Brevetto Carminati and built under the Carminati patent, was shown by three exhibitors: Platt Freres of France, S. A. Serra of Spain, and Zinser of Germany. It is called the rotating flat card.

These two developments are described with the accompanying photographs.

The consensus at the show seemed to be that these flatless cards have both advantages and disadvantages but they are likely to find a place in the industry.

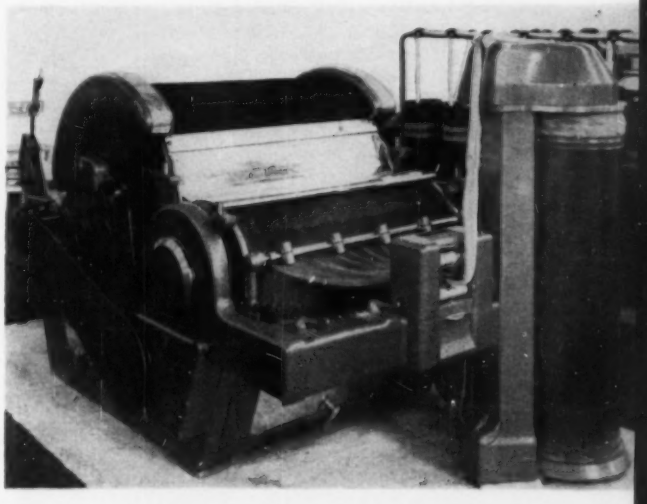
Since the flatless cards do not create flat waste, there is a gain in the percentage of cotton that goes into sliver. But this elimination of flat waste has its effect on sliver, and therefore yarn, quality.

So over-all, the flatless cards seem to offer some cost and production advantages but at a quality disadvantage. Therefore if they win a place in the industry it is likely to be in lower-quality, coarser yarns.

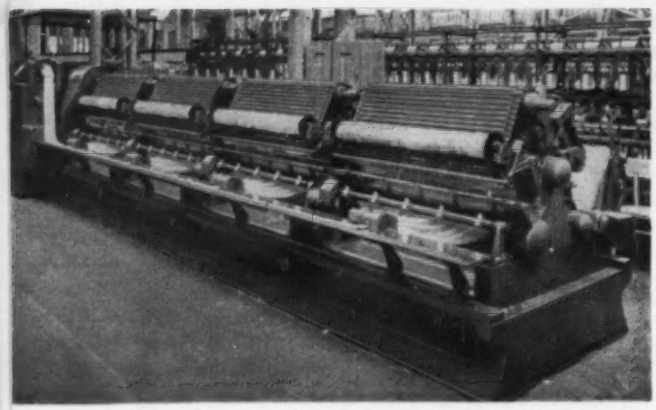
Web Purifier

A development said to improve yarn quality was shown by Platt Bros. Called the Crosrol web purifier, the development is an adaptation of the peralta rolls on wool cards. A pair of rolls is mounted on the card between the doffer comb and the calender rolls. The rolls are equipped with a weighting adjustment to apply more or less pressure on the web passing through the nip of the rolls.

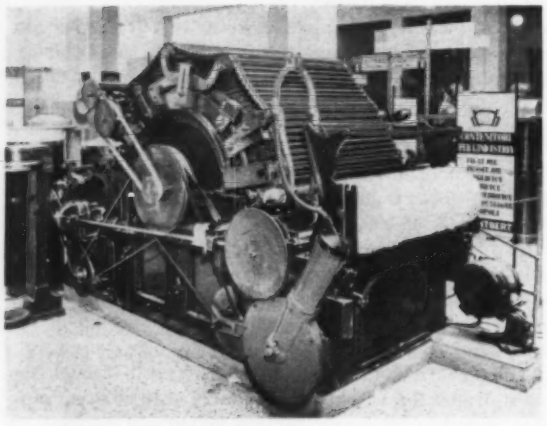
The web from the doffer comb is passed through the Crosrol; and the weighting is adjusted so that neps, nips, seed particles, and other foreign matter are crushed, as they are by the peralta rolls on a wool card. The web then goes through the calender rolls and to the coiler head.



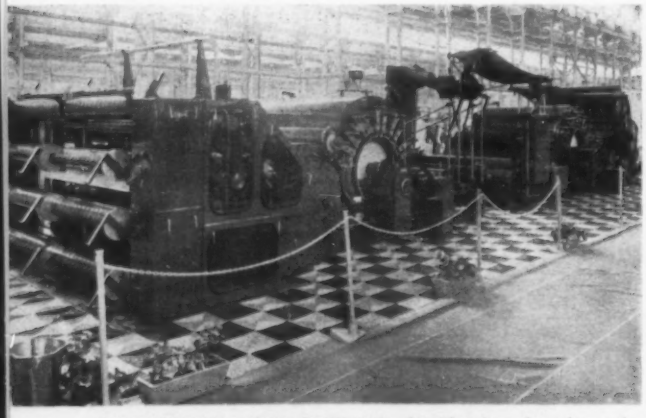
ROTATING-FLAT CARD shown by S. A. Serra, Barcelona, Spain. Eighteen small rolls clothed with metallic clothing work against the cylinder, replacing conventional flats.



FOUR CARDS TO ONE COILER shown by Bettoni Fratelli, Bergamo, Italy. The calender rolls deliver onto a belt that conveys the four slivers to the single coiler head.



CONTINUOUS STRIPPER shown at work on a card by Constant Card, Barcelona, Spain. (U. S. agent, Pneumafil Corp., Charlotte, N. C.)



CONTINENTAL WOOL CARD SET, the Platt-Josephy, shown by Platt Bros. (Sales) Ltd., Oldham, England. (U. S. agent, Atkinson, Haserick, Framingham, Mass.

In later processing, the crushed foreign matter drops out as the sliver is drafted.

The Crosrol arrangement was also shown in operation by Carding Specialists Co. Ltd., Halifax, England.

Four Cards, One Delivery

Four cotton cards in a tandem arrangement with a conveyor belt to deliver the four slivers from the calender rolls to a single coiler head were shown by Bettoni Fratelli, Bergamo, Italy.

Production of each of the four cards runs from 4.4 lbs. per hr. to 11 lbs. per hr. That gives a maximum production for the four-card arrangement of 44 lbs.

Advantages cited for the unit include lower initial cost than four conventional cards, half the floor space required, and a 30% power saving.

The accompanying photograph shows the card arrangement in operation.

Other Developments

Nearly all cotton cards shown have adopted large cans, usually up to 14x40 ins. to hold 40 to 42 lbs. of sliver. Most of the cards were conventional cards equipped with these large cans.

A conventional card equipped with large cans and a dual can turntable to hold an empty can in reserve for doffing was shown by Joh. Jacob Rieter & Co., Winterthur, Switzerland. U. S. sales agent is American Rieter, West Caldwell, N. J.

The Constant Card continuous stripper, announced recently for U. S. sale by Pneumafil Corp., Charlotte, N. C., was shown in operation on a card by Constant Card, Barcelona, Spain.

A cotton card equipped with an Autoleveller to vary speed of delivery in compensation for sliver-weight variation was shown by Graf & Co., Rapperswil, Switzerland. The Autoleveller is mounted on the card frame at the front bow and works at the point of the calender rolls. When sliver gets light, the leveler speeds up delivery to compensate. When sliver gets heavy, the leveler slows delivery to compensate.

Wool Cards

Wool carding did not show evidence of development work to the extent that cotton carding did. A great amount of floor space was taken up by the many wool card sets shown; but most of the cards were conventional machines, some of them incorporating refinements of previous models.

The Platt-Josephy Continental card set was thought by many to be perhaps the outstanding card. It was delivering 120 ends at 65 lbs. per hr. One of the most important features of the card was the automatic feeder. The feeder consists of a feeding hopper, a single-trap-door weighing pan, and a weighing mechanism controlled electrically.

Carding Specialists Co. Ltd., Mirfield, Yorkshire, England, showed its Crosrol card set built on the roller-trains system.

The principal feature of the card set is the use of several swifts with one or two workers each instead of the conventional one swift with multiple workers.

A high-production double worsted card of roughly 55-in. working width was shown by Officine Meccaniche Ferroviarie Pistoiesi, Pistoia, Italy. Production ranges from 55 lbs. per hr. to 88 lbs. per hr. depending on wool quality.

DRAWING

Past Trends Continue

Many drawing frames were exhibited at Milan, but there were few new directions of development in evidence. Nearly all the frames incorporate the new ideas developed in drawing frames several years ago—eight-ends-up usually, large frame structure, high speed, and, in many of the better frames, suction cleaning.

Some variations in these trends were shown, such as number of ends up, number of deliveries, multiple deliveries into one can, etc.; but frames were basically the same as they have been in the last several exhibitions, with some improvements and refinements.

A. Carniti & Co., Oggiono (Como), Italy, displayed a new high-speed drawing frame that was more or less representative of most of the more-economical frames at the show.

Called the G-5 model, the frame was equipped to take up to eight slivers per delivery and was built with four deliveries. Speed is 300 ft. per min. and can size 16x42 ins. It was equipped with an electric stop motion and signal lights but not with suction cleaning.

Joh. Jacob Rieter & Co., Ltd., Winterthur, Switzerland, displayed an improved high-speed drawing frame representative of the more-expensive frames.

Called the DO high-speed drawing frame for single and twin sliver, delivery speed ranges from 264 ft. per min. for combed sliver to 590 ft. per min. for carded sliver. Can size is up to 18x42 ins. The frame is equipped with suction cleaning and pneumatic weighting of the top rolls.

Whitin Machine Works showed its Even-Draft drawing frame Model M-2 built by its French licensee Societe de Constructions Mecaniques de Stains, Seine, France.

This frame, equipped with a Pneumafil suction system, was running at 400 ft. per min. and delivering 20 lbs. into 14x36-in. cans from a 10-ends-up feed.

Drawing for Sliver Spinning

Tweedales & Smalley Ltd., Castleton, Rochdale, England, showed its A.K.P. 12 drawing frame for producing packages for its sliver (direct) spinning frame.

The frame is fed eight-ends-up; and as the ends pass through the drafting zone, they are divided into two sections. When the ends come from the front rolls, they are condensed and pass into a set of pilot rolls. False, alternating twist is placed in the slivers by a trumpet between the pilot rolls and the calender rolls. The slivers are then wound by pairs onto four delivery-package tubes.

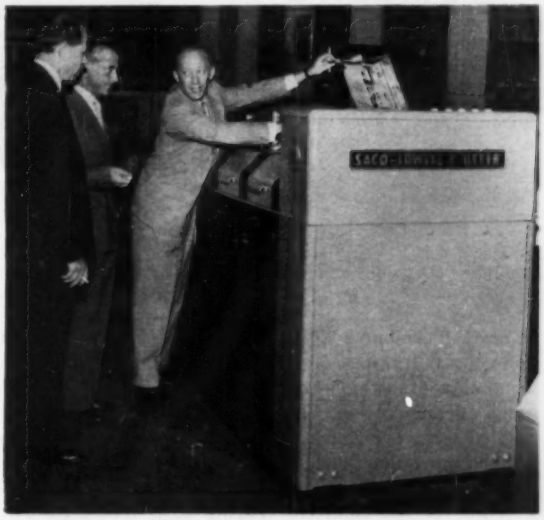
These full packages are creeled into the company's sliver spinning frame.

Electronic Control for Drawing

The greatest departure from conventional drawing was made by Saco-Lowell Shops, Boston, Mass. To its Versa-Matic drawing frame was added the Automatic Draft Control (ADC) system of Zellweger Ltd., Uster (Zurich), Switzerland.

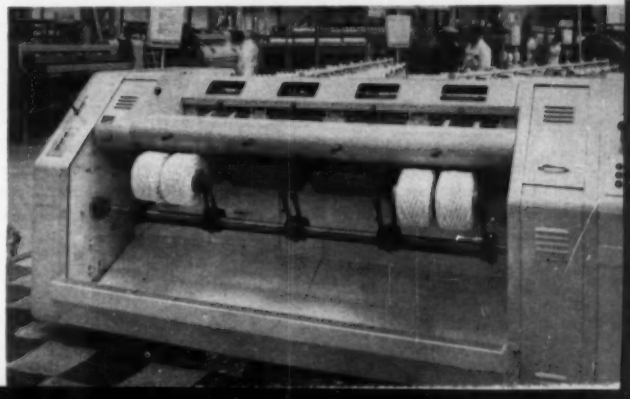
The ADC system is an arrangement for compensating for variation in sliver weight. It consists of these parts: (1) a transducer for electronically measuring sliver weight

HIGH-SPEED DRAWING FRAME shown by Joh. Jacob Rieter & Co. Ltd., Winterthur, Switzerland. Viewed with favor by several U. S. mills, this frame delivers 264 to 590 ft. per min. (U. S. sales by American Rieter, West Caldwell, N. J.)



SACO-LOWELL'S VERSA-MATIC-ADC DRAWING FRAME was the sharpest departure from conventional drawing frames at the show. It consists of the Saco-Lowell frame equipped with the Automatic Draft Control built by Zellweger-Uster. Here, Hans Locher, chief electronics engineer of Zellweger, shows the draft control to Thomas J Ault, president of Saco-Lowell, and Dr. Benno Bissig, Zellweger acting managing director.

DRAWING FOR SLIVER SPINNING. Tweedales & Smalley Ltd., Castleton, Rochdale, England, showed this high-speed drawing frame, its A.K.P. 12, for winding tubes of sliver for drafting on its direct spinning frame.



per unit of length mounted on the frame so that measurement occurs between the second and third rolls, (2) an amplifier for converting the weight measurement into a compensating signal, and (3) a gear control unit for controlling the draft of the frame to correct variations in sliver weight.

The limits of correction are 20% above and 20% below the mean draft.

The Versa-Matic-ADC machine is said to almost eliminate weight variation and to make possible higher quality with fewer doublings. In many organizations, fewer machines will be needed in yarn manufacturing.

LAPPING AND COMBING

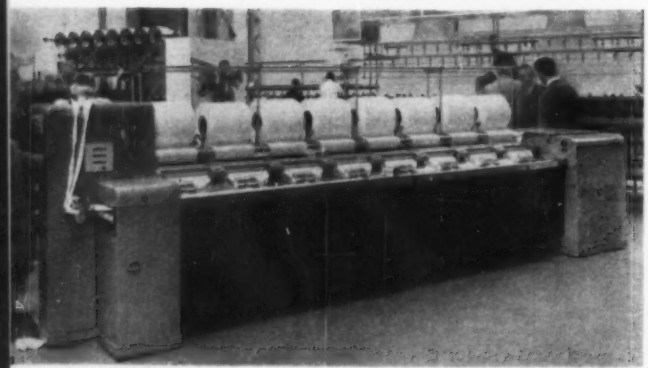
SLIVER LAP MACHINE, the Model G-1 Super Lap, shown by Whitin Machine Works, Whitinsville, Mass. Feeding 60 ends, the machine delivered a lap of 1,000 grains per yard at 220 ft. per min.

Several exhibitors displayed complete systems of cotton-system drawing, lap preparation, and combing; and a number of others showed machines for one or more steps of the process. In most cases, the machines exhibited were refinements of earlier models, designed for simpler operation, high speed, and improved quality of combing.

Three of the complete systems were shown by Platt Bros. (Sales) Ltd., Oldham, England; Joh. Jacob Rieter & Co., Ltd., Winterthur, Switzerland; and Whitin Machine Works, Whitinsville, Mass., and its licensee Societe de Constructions Mecaniques de Stains, Seine, France.

Whitin's Model G-1 Super Lap machine, built in France by Stains, was one of the outstanding lap-preparation machines exhibited. It was shown as the second step (following drawing and preceding combing) in a system of preparation and combing.

Feeding 60-ends-up, it delivered a lap of 1,000 grains per yard at a delivery rate of 220 ft. per min. Lap weight can be increased to 1,200 grains per yard.



HIGH-SPEED COTTON COMBER, the E7, shown by Joh. Jacob Rieter & Co., Ltd., Winterthur, Switzerland. Nip speed ranges to 180 nips per minute, and close settings between nippers and detachers accommodate short cotton. (U. S. sales by American Rieter, West Caldwell, N. J.)

High-Speed Combers

A production up to 44 lbs. per hr. at a speed of 116 nips per minute was given for the six-head Hartford comber at Platt Bros. Stressing the wide range of uses for the comber, Platt recommends the comber for waste extraction over a range of 6% to 25% and for laps of any common preparation method.

Whitin's J-5 comber, an advanced design of the J-model that several years ago set the pace for high-production combers, is an eight-head comber delivering 44 lbs. per hr. at a speed of 150 nips per minute and a draft of 60. The comber running at Milan was removing 16% waste and delivering 22 lbs. of combed stock into 14x36-in. bicoil cans.

Rieter's E7 comber, also an eight-head machine, has a speed up to 180 nips per minute. The model running at the show featured heavy lap feed and a short setting distance between the nipper and detaching rolls to accommodate shorter-staple cottons.

PREPARATORY DRAFTING

One of the outstanding features of wool preparatory drafting was the wide adaptation of the Autoleveller for compensating variations in draft. In wool processing, the Autoleveller accomplishes mechanically the compensation of sliver-weight variation by increasing or decreasing draft that is now being done electronically in cotton drawing on the Saco-Lowell-Uster drawing frame.

Developed several years ago as the Raper Autoleveller, it was first used in commercial machines by Prince-Smith & Stells, Keighley, Yorkshire, England, in 1950 and 1951.

At the Milan show, its widest adaptation was shown by Prince-Smith & Stells in a complete drafting organization of three reducing machines and an Amblerdraft spinning frame.

CONTINENTAL (FRENCH) COMB shown by Sant' Andrea, Novara, Italy. The comb handles 24 ends of balled top at a nipping speed of 160 nips per minute with a burr knife or 175 nips per minute without the knife. (U. S. agent, Ernest Frankl Associates, New York, N. Y.) Here, Gunther Frankl, second from right, explains the comb to Prent Thomas, TEXTILE WORLD. Beyond Mr. Frankl is Carlo Schleifer, developer of the comb.

Operation 1 was the Autoleveller Speed-O-Gill model KSG4 running merino wool at a draft of 8.1 and delivering 70 yds. of sliver a minute into a 24-in. can with a capacity of 50 lbs. This gill ran with 1,000 faller drops a minute and reduced top weighing 4,540 drams per 40 yds. to sliver weighing 560 drams per 40 yds.

Operation 2 was the Autoleveller Bicoiler Draw Box Model KRD2. With a draft of 6.8 and a delivery speed of 39.5 yds. per min., this machine reduced sliver from 560 drams per 40 yds. to 82.5 drams per 40 yds. Can size was 16 ins. and capacity 20 lbs.

Operation 3 was the Amblerdraft Finisher equipped with a new drafting system. With a draft of eight and four doublings, the finisher reduced sliver weighing 82.5 drams per 40 yds. to roving weighing 40 drams per 40 yds. at a speed of 27.6 yds. per min. Spindle speed was 620 rpm. and bobbin size 10x5 ins. with a capacity of 2½ lbs.

Operation 4 was an Amblerdraft spinning frame, Model KMF2. With a draft of 70 and a spindle speed of 7,000 rpm., this frame delivered 1/32 yarn with 12-tpi. twist at 16.2 yds. per min. from roving weighing 40 drams per 40 yds.

The only new developments in this yarn layout were the drafting system in Operation 3 and improvements and refinements in the Amblerdraft system in Operation 4.

In a preparatory top-winding step prior to Operation 1, Prince-Smith & Stells had a new automatic ball doffer winding top into balls of 20-in. dia. and 16-in. width at 69.4 yds. per min. Automatic doffing was done by a doffing arrangement that rolled the ball from winding position onto an apron immediately in front of and below the ball.

A new Continental (French) comb was demonstrated by Sant' Andrea Novara, Novara, Italy, represented in the U. S. by Ernest Frankl Associates, New York.

Called the Model PS, the machine feeds 24 slivers of balled top and combs at a speed of 160 nips per inch with a burr knife or 175 nips per inch without a burr knife. The circular comb consists of two half-laps equipped with 10 needle bars each.

ROVING

Roving frames showed no major departures from frames available for the last few years. Differences seemed mainly of the quality-plus-price ratio.

The only U. S.-built roving frame shown was the Whitin Quik-Set roving frame running on the American worsted system. But Atkinson, Haserick, the U. S. representative of Platt Bros., demonstrated the Platt MS-2 roving frame with a new drafting system.

The new drafting arrangement is a 3-over-3 system with a draft range of 4 to 12 and roll-adjustment range to accommodate fiber from ¾ in. long to 4 ins. long. Package size can be up to 12x7 ins. Flyer pressers can have one hole for normal winding or two holes for normal or high-tension winding.

A one-shot centralized lubrication system with transparent nylon tubing is used.

Representative of the lower-price roving frames was the Carniti frame available in three types: a coarse slubber, an intermediate roving frame, and a fine roving frame. The frames are equipped with three-roll, double-apron drafting systems with a draft range of 5 to 16, a top-arm weighting system, and antifriction bearings to reduce lubrication.

The fly frame shown by Rieter uses a three-roll, double-apron drafting system and features high speeds, high drafts, and large packages. Sliver feed cans can be up to 18 ins. in diameter and bobbins can be up to 14x7 ins. The frame has three rows of sliver-feed rolls to prevent stretching the roving as it is pulled from the can and fed to the back rolls.

The roving frames shown by these three exhibitors were representative of the many cotton roving frames shown.

Many tape condensers and ring frames for woolen and worsted roving were shown, but no new directions of

development were evident. By and large, the machines shown followed development trends of late years and confined improvements to refinements directed toward faster and easier operation and larger packages.

For American-system worsted roving, Whitin Machine Works showed its well-known Quik-Set frame running 64-70 English worsted at a front-roll speed of 162 rpm. and spindle speed of 1,000 rpm. With an 8-in. gauge and 10x5-in. bobbin size, the frame drafted 15.3 and delivered 2.25-hk. roving.

SPINNING

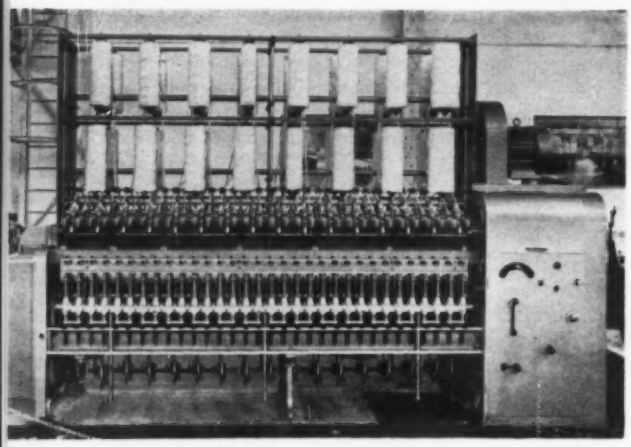
The strongest trend evident in spinning frames, including cotton, wool, and man-made-fiber spinning, was the floor-space-saving narrow frame construction. Nearly all spinning-frame builders have adopted it. For cotton, the widths most common were 25 to 28 ins. For wool, widths usually ranged between 28 ins. and 32 ins.

Sliver (direct) spinning was represented by several frames, but it did not seem to be exciting many people.

One surprise was that nobody exhibited an automatic spinning-frame doffing machine. None of the three developed recently—one in the U. S., one in Spain, and one in Japan—were at the show.

Nearly every spinning-frame manufacturer in the world had frames on display. Few of them had only one. Of the three U. S. builders, Saco-Lowell had one, Roberts two, and Whitin two. Several European builders—for example, Carnitti, Houget, Marzoli, Platt, Rieter, Serra, and others—showed complete lines of frames for cotton, woolen, worsted, and man-made-fiber spinning.

Roberts Co., Sanford, N. C., showed the two frames, with improvements, exhibited last year at Greenville: the Arrow M-1 for cotton and the Arrow WM-2 for long fibers. The exhibit was in conjunction with the newly created sales company Hobourn-Roberts Co. Ltd., formed



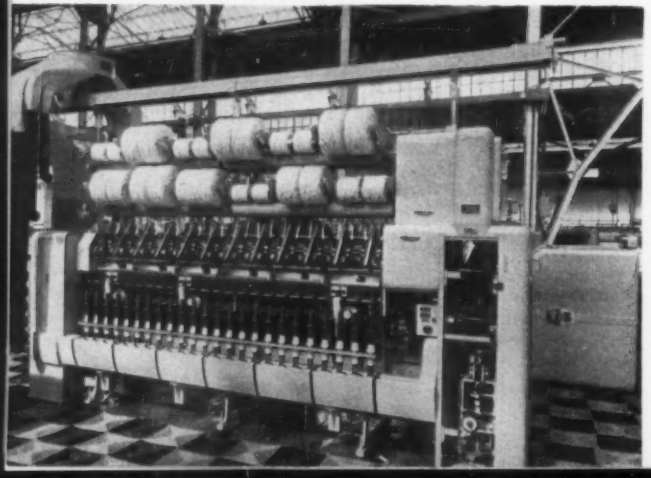
DIRECT SPINNING FRAMES

Several sliver spinning frames, usually called direct spinning frames in the U. S., were on exhibit. Most of them have gotten away from the use of sliver in cans as the feed supply. Instead, the European frames use tubes or balls of sliver mounted on a creel.

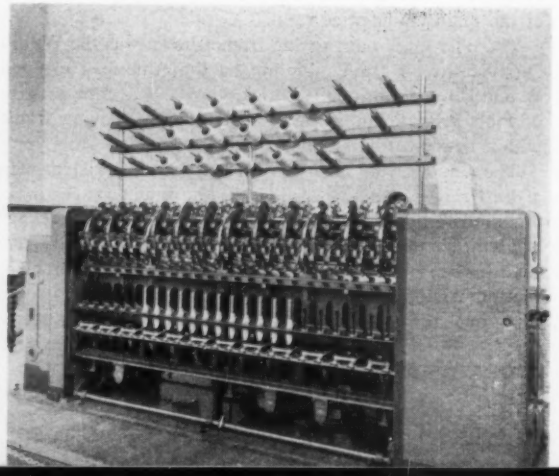
Three types—one from Spain, one from France, and one from England—are shown here.

SPAIN. S. A. Serra, Barcelona, Spain, used a tube of sliver wound in a second process of drawing for the creel. The spinning frame is equipped with the four-roll Balmes drafting system, and drafts range from 75 to 150.

ENGLAND. Tweedales & Smalley Ltd., Castleton, Rochdale, England, showed a sliver spinning frame that used horizontal tubes of sliver in the creel and a high-speed drawing frame for winding the tubes. The spinning frame was equipped with a four-roll, double-apron drafting system.



FRANCE. Societe de Constructions Mecaniques de Stains, Stains (Seine), France, used a tube of filament-rayon tow instead of staple sliver in the creel. The tow was "stretchbroken" between two sets of rolls as it passed over a prismatic roll with blunt edges.



with Roberts's British licensee builder, Hobourn Aero Components Ltd.

The 25-inch-wide M-1 frame was running 30s yarn from 0.75-hk. cotton roving with a draft of 40 on one side and 1.30-hk. 2½-in. rayon with a draft of 23 on the other side.

The WM-2 was running four yarn numbers On one side 1/40 wool and Terital was running from 4.0-hk. roving and 1/45 wool and Terital was running from 4.5-hk. roving with a draft of 20. On the other side 1/30 100% Turbo Orlon was running from 2.0-hk. roving and 1/34 was running from 2.28-hk. roving with a draft of 15.

Saco-Lowell Shops, Boston, Mass., operated its new Model SJ spinning frame with the MagneDraft roll-pressure system and umbrella creel shown last year at Greenville.

The MagneDraft system, a method of obtaining roll pressure by the use of magnetic force, eliminates such traditional drafting-element parts as saddles, stirrups, levers, springs, weights, and cap bars. It also eliminates the necessity for lubricating top rolls.

Representing the strongest departure from traditional drafting-element construction at the Greenville show, this frame was also the greatest departure at the Milan show.

Whitin Machine Works, Whitinsville, Mass., showed the Model K cotton spinning frame built by its German licensee, Industrie Werke, Karlsruhe, Germany.

With 396 spindles, 3-in. gauge, 2-in. rings, and an 11-in. traverse, it was running double-creeled 3.00-hk. roving with a draft of 40 and a twist of 31 tpi. Speed was 13,350 rpm. of the spindle and 136 rpm. of the front roll. It spun 60s yarn from 1¼-in. Middling cotton.

For the American system, Whitin showed the 27-in.-wide Piedmont frame, introduced last year at the Greenville show, equipped with the Amertrol top-arm weighting arrangement. With a gauge of 4½ ins., 2½-in. rings, and an 11-in. traverse, the frame was running single-end 3.58-hk. roving with a draft of 16.2 and a twist of 18 tpi. Delivery was 1/58 worsted yarn of 55% 3-den. Dacron and 45% 64-70 wool. Spindle speed was 10,000 rpm. and front-roll speed 89 rpm.

One of the newest frames on exhibit was the MR.4 built by Platt Bros. (Sales) Ltd., Oldham, Lancaster, England, and demonstrated by Atkinson, Haserick. This frame is Platt's adaptation of the narrow frame construction. It has many of the same features as the older MR.3, but width has been reduced to 28 ins.

Platt says that improved spinning conditions provide more-favorable spinning angles, resulting in lower tension, fewer ends down, and better yarn-balloon control. A single balloon-control ring is used.

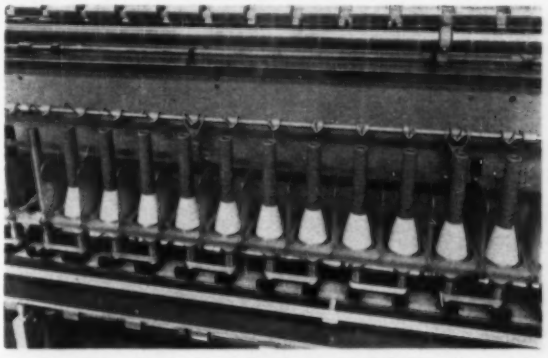
Four drafting systems can be applied to the frame: (1) S. K. F. single-apron for fiber lengths up to 2½ ins., (2) S. K. F. double-apron for the same staple lengths, (3) Casablancas GX for staples up to 1¾ ins., or (4) Sussen single and double aprons for fibers up to 4⅞ ins.

TWISTING AND WINDING

Twisters, false twisters, and winders were very numerous at Milan.

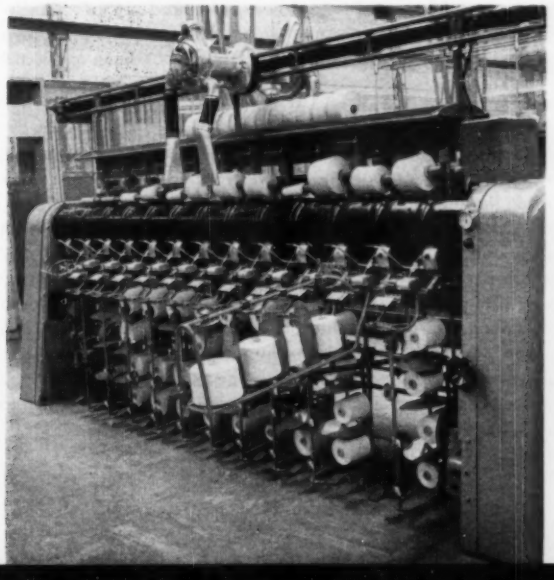
Rieter exhibited its J 5/5 draw twister for fine filaments (maximum 300 den.) with a delivery speed of 1,650 to 3,300 ft. per min. and a spindle speed up to 10,000 rpm.

Carniti showed its new twister for combining up to six plies.

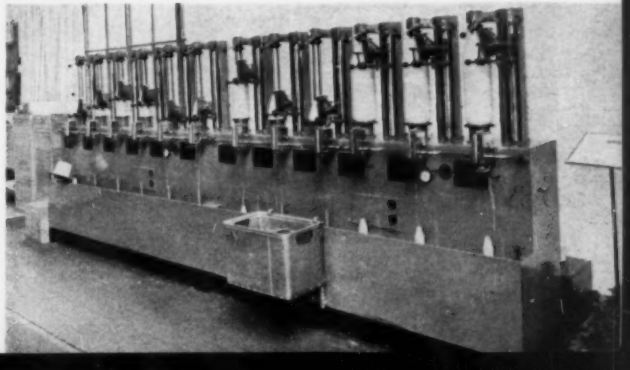


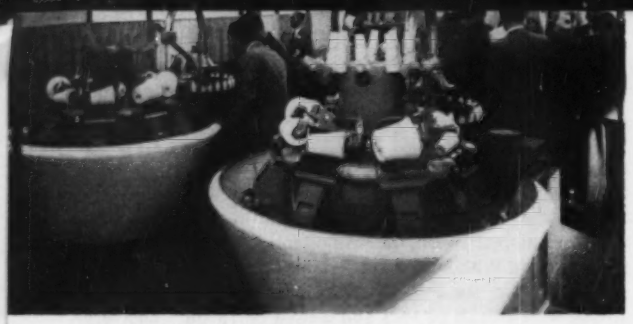
28-IN. TWISTER shown by Platt Bros. (Sales) Ltd., Oldham, England (U. S. sales by Atkinson, Haserick, Framingham, Mass.). Built on the same principles as its wide twisters, this new twister incorporates the late trend of reduced width for saving mill floor space.

FOUR-PLY DOUBLER shown by W. Schlafhorst & Co., M. Gladbach, Germany (U. S. sales by Terrell Machine Co., Charlotte, N. C.). When full cones are ready for doffing, the four-cone carrier swings out as shown to make doffing easier.

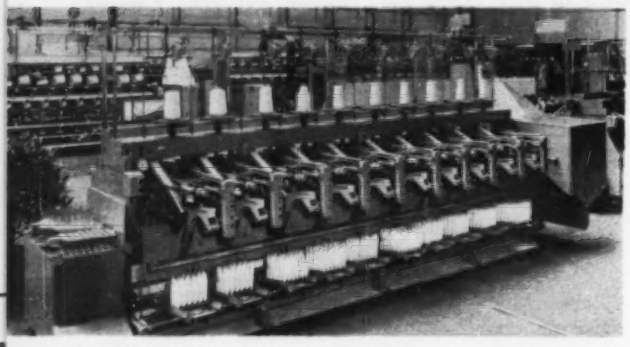


HACOBA BOTTLE-BOBBIN WINDER shown by Plutte, Koecke & Co., Wuppertal-Barmen, Germany. The 22.0x5.2-in. wound package is coreless and can be used as a dye package or warping package.

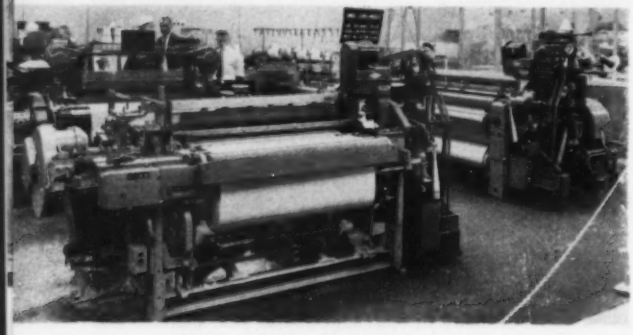




TRAVELING-SPINDLE WINDER with eight winding spindles per unit was shown by Schweiter Ltd., Horgen (Zurich), Switzerland. A battery of 4 to 12 machines can be run by one operator.

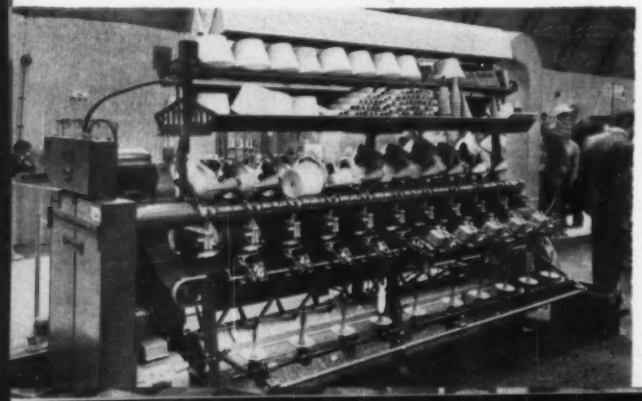


AUTOMATIC FILLING WINDER running at 10,000 rpm. was shown by Scharer, Erlenbach-Zurich, Switzerland (U. S. sales by Yeomans Textile Machinery Co., Spartanburg, S. C.). The winder was equipped with a new pinboard stacker for wound bobbins.



UNIFIL WINDERS on foreign looms were featured by Leesona Corp. (Universal Winding Co.). The three looms shown here equipped with Unifil are a Ruti, a Saurer, and a Picanol loom.

HIGH-SPEED ROTO-CONER shown by Leesona Corp. (Universal Winding Co.) was redesigned to increase the speed of the previous model from 5,500 yds. per min. to 11,000 yds. per min.



Platt Bros. showed its new 28-in. twister, shown in the accompanying photograph.

W. Schlafhorst & Co., M. Gladbach, Germany, displayed its BKF doubling machine for plying up to four ends and featuring an electric stop motion that cuts the other ends being plied at one delivery when one of the single ends breaks.

Another feature of this doubler is a doffing arrangement for the wound tubes. When the tubes at one delivery head are full, the operator lowers a foot pedal that releases the four-tubes carrier. The carrier flips out and up to place the full tubes in easy doffing position. When empty tubes are put in the carrier, the carrier is again lowered into position for winding to be done on the empty tubes.

One of the outstanding new winders was shown by Plutte, Koecke & Co., Wuppertal-Barmen, Germany. Called the Hacoba Bottle Bobbin Winder Model FM, the six-head unit winds 22.0x5.2-in. packages on ejectable tubes. After the winding tubes are removed from the cores of the yarn packages, perforated dye tubes can be placed in the package for dyeing or the coreless tubes can be mounted on a warper creel for warping.

Traveling-Spindle Winder

A new traveling-spindle cone winder, of different construction than any other yet on the market, was shown by Schweiter Ltd., Horgen (Zurich), Switzerland. Instead of many spindles traveling past a loading, unloading, and knotting location—as is done in the cases of the Abbott winder in the U. S. and several European models—this new Schweiter winder is built with only eight winding heads and spindles traveling in a circle past an automatic knotting head. All spindles wind constantly; and if an end breaks, it is retied in seconds when the spindle travels past the knotting head. If a supply bobbin runs out, it is automatically replaced by a full bobbin.

One of the chief advantages of the winder is its flexibility of use. It is designed in eight-spindle units for installation in batteries. One operator can run 4 to 12 machines (32 to 96 spindles), depending on the number of the yarn and the size of the supply packages.

The winder, called the Multi-Coner Type 10, is shown in the accompanying photograph.

Schärer, Erlenbach-Zurich, Switzerland, showed an improved high-speed fully automatic filament winder running at 10,000 rpm., compared to 7,000 rpm. on the previous model, and equipped with a new automatic pinboard stacking unit for placing wound bobbins on a pinboard when they are doffed. The older model did not have pinboard stacking.

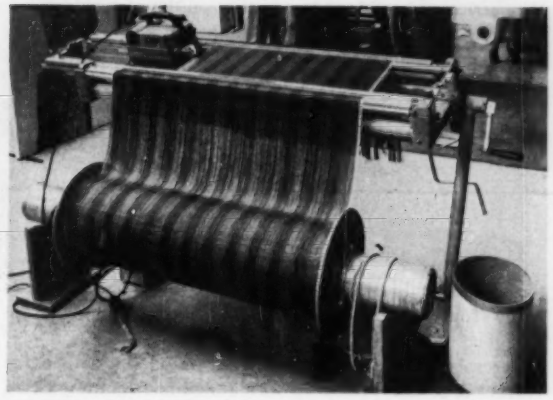
Unifil on Foreign Looms

Leesona Corp. (Universal Winding Co.) showed its Unifil winder at work on several foreign-built looms. This was the first adaptation of the winder to foreign machines.

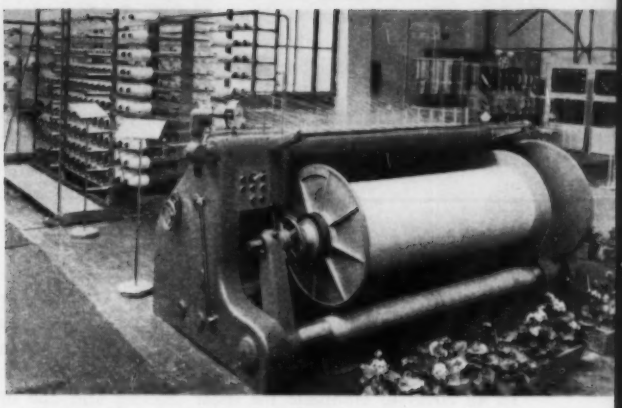
One Unifil unit was operating on a Ruti cotton loom on 16s cotton filling at 220 ppm., another on a Saurer 100W rayon loom on 250-den. rayon filling weaving 60-in. fabric at 176 ppm., and a third was on a Picanol 48-in. loom weaving 12s rayon filling at 242 ppm. The Italian Giani loom was using a Unifil unit in another exhibit.

Leesona also showed a Leesona Roto-Coner on which speed had been increased from 5,500 yds. per min. to 11,000 yds. per min.

WARPING AND TYING



THE USTERMATIC WARP-TYPING MACHINE shown by Zellweger-Uster, Uster (Zurich), Switzerland (U. S. sales by Uster Corp., Charlotte, N. C.). The electronically controlled knotter ties up to 600 knots a minute and trips off if a fault occurs.



HACOBA BOTTLE-BOBBIN WARPING CREEL shown by Plutte, Koecke & Co., Wuppertal-Barmen, Germany. Mounted on a spring-loaded spindle for constant tension, the supply bobbin measured 18.2x6.2 ins. when full.

The two most-significant developments in warping and warp tying were the new bottle-bobbin warp-creel package wound on the Plutte, Koecke Hacoba bottle-bobbin winder and the Ustermatic warp-tying system.

As a warping package, the bottle bobbin is wound to a size of about 18.2x6.2 ins. and used in Plutte, Koecke's Glatex warping creel with spring-loaded spindles. As the yarn runs off and the package size is reduced, the package is held steadily against the run-off button at the end of the spindle.

The Ustermatic warp-tying machine was designed to tie automatically any kind of warp yarns and to replace the five existing types of the "Little Uster" warp-tying machine. It ties new and old warps, with or without leases, at a speed up to 600 knots a minute.

Either of two types of knots can be used: the normal knot for such easily held yarns as cotton and wool or a nonslip knot for man-made-fiber yarns.

WEAVING

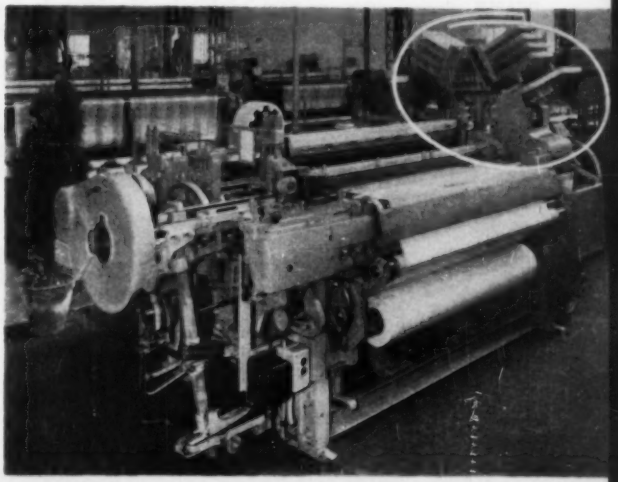
The most outstanding major development of the Milan show was the shuttleless looms. Four types were shown by four different loom manufacturers: Draper Corp. (U. S. A.); A B Maxbo (Sweden), which is being built in the U. S. by Abney Mills' loom company; August Engels (Germany); and Telar Universal Iwer (Spain).

The Maxbo loom uses air to blow and suck the filling through the shed. The other three use some form of yarn holder to carry the yarn across.

The Draper loom, about 600 of which are now running in U. S. mills, with orders for others placed for delivery from now well into 1960, was operating at 250 ppm. Reciprocating-arm yarn carriers take the filling from a cone yarn supply through the shed in a hairpin pattern, forming a short fringe beyond the selvage at one side of the cloth.

Draper showed a wide range of cloth constructions, gray goods and finished goods, woven on the loom.

The Maxbo loom, to be built under license by Southeastern Loom & Machine Works, Greenwood, S. C., builder of the Hunt Loom, uses an air arrangement to



AUTOMATIC MAGAZINE LOADING, *circle*, from metal containers holding 12 quills of filling each was shown by Ruti, Ruti-Zurich, Switzerland. The filling handler places eight containers of filling on the stand; and when the container in transfer position i empty, the weaver replaces it with a full container. (U. S. sales by H. J. Theiler Corp., Whitinsville, Mass.)

place filling across the shed. On one side of the loom an air jet shoots the filling end through the shed to an air-suction tube at the other side of the shed. A short fringe is formed outside both selvages of the cloth.

Speed of the Maxbo loom ranges from 320 to 400 ppm.

The German loom, built by August Engels GMBH, Velbert (Rheinl), Germany, uses metal yarn carriers on two chains. One chain is driven by a wheel at one side of the shed, and the other is driven by a similar wheel at the other side of the shed. On each pick, the yarn is transferred from the carrier on one chain to a carrier on the other chain.

The yarn supply is cones mounted at one side of the loom, and filling picking is all from one side. The loom on exhibit was weaving a three-color stripe fabric.

The Spanish loom, built by Maquinaria Textil del Norte de Espana, S. A., Barcelona, Spain, is a shuttleless loom

THE FOUR SHUTTLELESS LOOMS

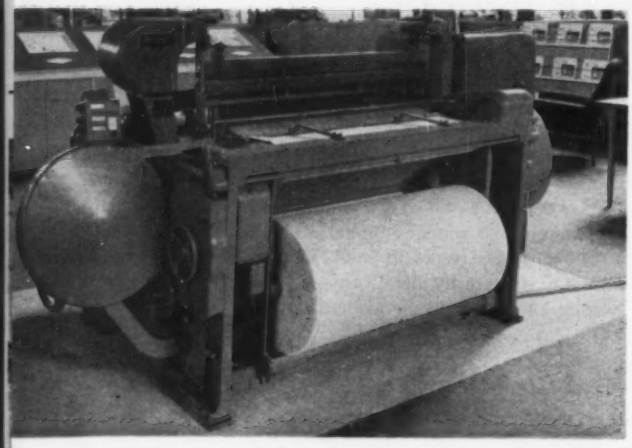
The U. S., Sweden (with a licensee in the U. S.), Germany, and Spain came up with different versions of the single most important technical development at the Milan show: the shuttleless loom.

In an effort to eliminate the most limiting and one of the most troublesome and expensive parts of a loom—the conventional picking motion involving a flying shuttle—the four companies exhibiting shuttleless looms approached the picking problem in different ways.

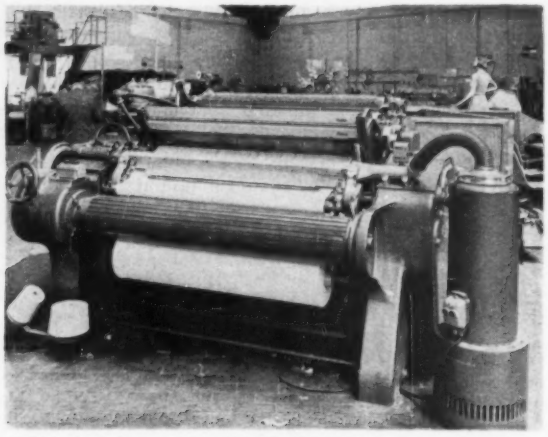
Several years ago, Sulzer in Switzerland (U. S. licensee Warner & Swazey) came up with a modified shuttle-picking motion that eliminated reciprocal picking. But the motion used a small shuttle substitute flying through the shed, picked from one side of the loom.

None of the four looms at Milan used a shuttle. Three used a yarn carrier; the other used air.

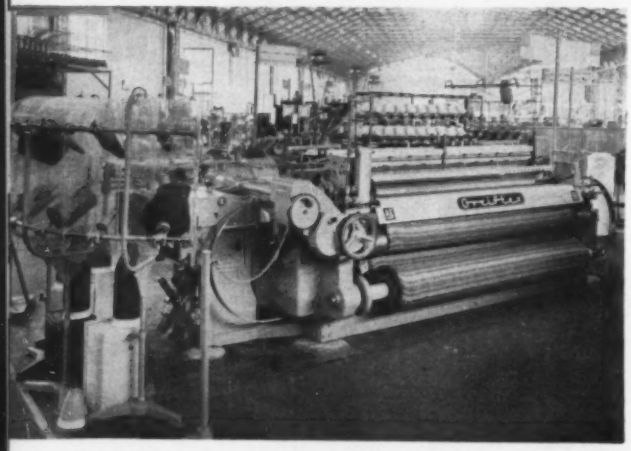
Shown here are the four shuttleless looms.



DRAPER. Reciprocating-arm yarn carriers lay the filling in the shed in a hairpin pattern, leaving one fringe edge beyond the selvage.

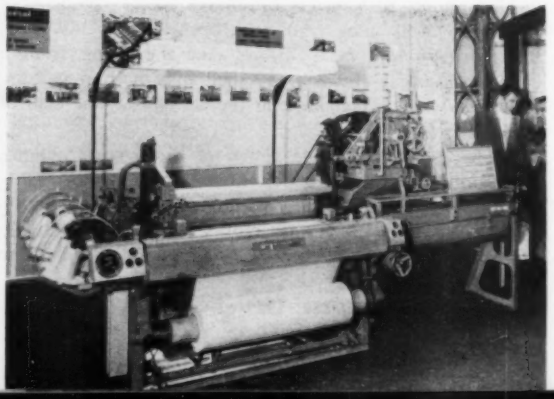


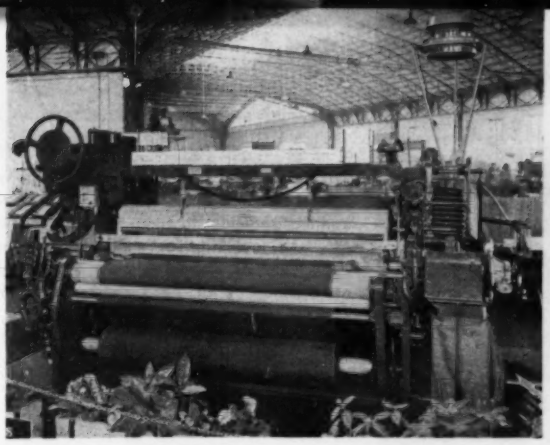
MAXBO. A jet of air blows the filling from one side of the shed across the loom to a filling-end suction tube at the other side of the shed.



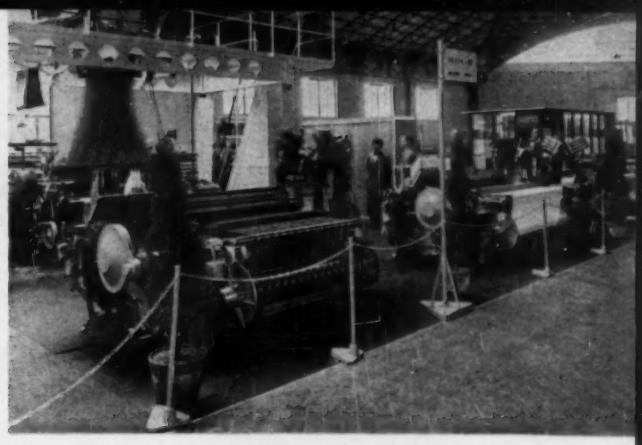
ENGELS. Yarn carriers mounted on two chains, one driven by a wheel on each side of the loom, lay the filling in the shed. A disadvantage is the floor space required by the yarn-feed mount at the left.

UNIVERSAL IWER. A yarn-carrier arm runs from the stand at the right of the loom in a back-and-forth motion, through the shed, and to the yarn feed at the left. Disadvantages are the floor space required by the picking stand and yarn-feed stand plus the awkward cam-and-levers picking-motion drive.





U. S. LOOMS BUILT in EUROPE. Crompton & Knowles showed the PAPA (pick-and-pick automatic) loom shown here and a C-7 loom built under license in Turin, Italy, by C & K's licensee, Societa Nebiolo S.p.A.



RUTI LOOMS THAT WILL BE SOLD IN U. S. by H. J. Theiler Corp., Whitinsville, Mass., were on display. The exhibit, listed in the accompanying text, included both single-shuttle and multishuttle looms.

but was the only one at Milan that retains the reciprocating picking motion of a shuttle loom. It feeds from a cone yarn supply and uses a yarn carrier instead of a shuttle to lay the filling in the shed. The carrier is mounted on a rod or sword that runs in a track. Picking is done by a lever arrangement driven by a large cam located under the yarn sheet between the warp beam and the reed.

The loom was running 150-den. filament-rayon filling at 135 ppm.

For U. S. mills, the German and Spanish looms both have one serious shortcoming: they both take up a great deal of floor space. The Engels loom requires about half as much floor space for its filling-supply mounting as for the productive part of the loom. The Spanish loom requires fully as much floor space for its picking arrangement plus its yarn supply as the productive part of the loom requires.

Other Developments

Besides the shuttleless looms, most other loom developments consisted of refinements to increase loom speed. Most manufacturers have stepped up speed 10 to 20%, and most looms at the show were running at 200 to 250 ppm.

Vacuum filling control has now been widely adopted since Crompton & Knowles' patents expired.

Ruti Machinery Works Ltd., Ruti (Zurich), Switzerland, showed looms equipped with automatic magazine loading. In this system, 12 bobbins of filling are placed in a container as they are wound at the winder. Each bobbin is held in place in the container so that it can slide into place in the shuttle when its turn comes for transfer. The filling handler places eight of these 12-bobbin containers in a supply stand at the end of the loom; and when the 12 bobbins in a container are used and the container is empty, the weaver places a new full container into transfer position on the loom.

A small bunch of filling is wound at the top of each bobbin to insure that on the automatic transfer the thread holder "finds" the yarn end. Before the transfer, this filling bunch is stripped off by a sleeve adaptor, which holds the yarn until the transfer is made. Cutters cut the yarn tails on the old and new bobbins, and a vacuum end-removal arrangement removes the ends.

In the Ruti exhibit were several of the looms that will be sold in the U. S. by H. J. Theiler Corp., Whitinsville, Mass. They included:

Single-shuttle high-speed looms equipped with automatic filling-container yarn-transfer units for rayon and cotton;

A 4x1 drop-box high-speed loom with the container transfer unit;

A high-speed jacquard loom;

A terry loom for toweling;

Seven-shuttle pick-and-pick looms for worsteds; and

An automatic leno loom.

Crompton & Knowles featured some of its looms now being built under license by Societa Nebiolo S.p.A., Turin, Italy.

The PAPA (pick-and-pick automatic) loom shown was an 82-in. 4x3 box loom operating at 125 ppm. on worsted suiting with 3,910 warp ends, 53 ppi. Warp and filling was 2/60 wool and Therilene.

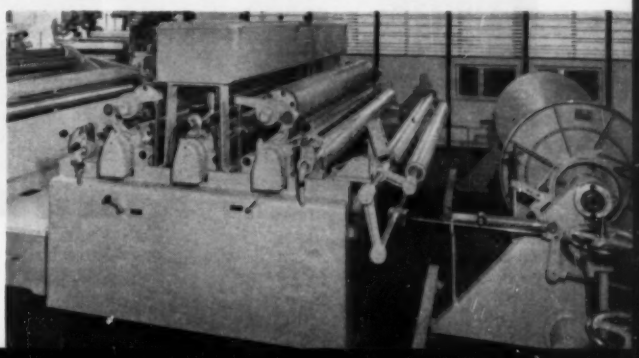
The C-7 loom shown was a 54-in. 4x1 box loom running at 185 ppm. on cotton dress goods with 2,820 warp ends, 58 ppi. Warp and filling were 40/2 cotton.

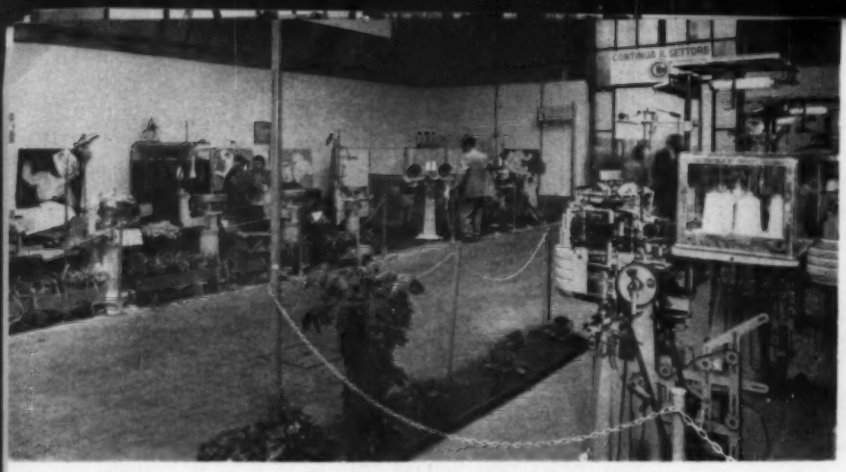
Sizing Machine

Ruti also showed a new warp-sizing machine for rayon.

Instead of cooking the size in water and dipping the warp yarn into the size and then drying it, the size is used in a wax-like state and is applied to the warp by electrically heated rolls. Two sets of application rolls are used. After the size is applied, the yarn passes over a heated guider roll and then cools as it passes on to the beam.

WARP-SIZING MACHINE FOR SYNTHETICS shown by Ruti. Instead of wetting the warp yarn with cooked size, a wax-like size is applied by electrically heated rolls.





THE KNITTING SECTOR included many dozens of machines for all types of knitting, seaming, looping, finishing, packing, and labeling; but nearly all of the major new developments were on display at Atlantic City last April and reported by TEXTILE WORLD in June.

KNITTING

With the Milan show coming only five months after the Knitting Arts Exhibition in Atlantic City and developments in that show being dominated by foreign machinery, there was little at Milan that was not represented in Atlantic City, so far as new technology is concerned.

Probably the outstanding new machine in the knitting exhibit was Scott & Williams's AMF (All Multi Feed) two-feed, 400-needle machine for plain or microfilm (tuck design) hose, said to increase production 95% over a single-feed machine. Production quoted for the model running at Milan was one stocking every 8 mins.

C. Terrot Sohne, Stuttgart, Germany, showed a new rib-eyelet machine not exhibited before. It was shown in two models: a 14-in., 14-gauge machine with 600 needles and a 16-in., 14-gauge machine. Both models were equipped with new speed wheels for eyelet-pattern control. Production was given as one garment in 8 mins.

Moretta, Varese, Italy, showed a new two-feed knitting machine similar to the Scott & Williams AMF machine. Called the Model D.R. 2, the machine is a 3¾-in. seamless-hosiery machine available with 360, 400, or 472 needles. (U. S. and Canadian agent for this machine is Staroba Industrial Research Co., Toronto, Ont.)

Besides these new developments, other knitting machines followed about the same trends seen in Atlantic City earlier this year.

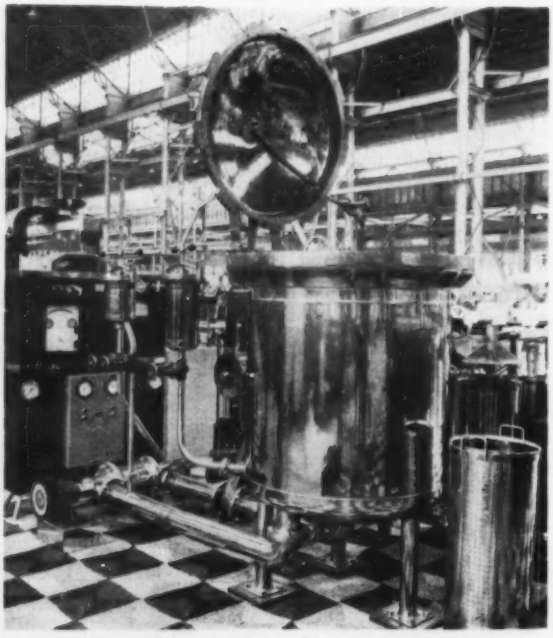
FINISHING

The finishing sector at the Milan show was dominated by automatic screen-printing machines. Six exhibitors had them on display.

Artos Maschinenbau, Hamburg, Germany, showed its Artos-Stoffel automatic screen-printnig machine for "wet-on-dry" and "wet-next-to-dry" printing (printing with intermediate drying between different color processes). The machine is equipped with an electronic control for color repeats. Accuracy of repeat is said to be 0.1 mm. up to 24 colors.

Fritz Buser, Wiler/EBT, Switzerland, exhibited its Hydromag II fully automatic screen-printing machine, a new model of the screen printer it has been selling for several years. This machine uses a hydraulic-magnetic control for printing repeats. Cloth is fed to the printing conveyor belt from a J-box through selvage guiders and a tension-control device. After printing, the cloth passes through a hot-air dryer to a coiling stand. Accuracy of repeat is said to be 0.2 mm. (1/128 in.).

Reggiani Meccanotex S.A., Bergamo, Italy, showed a 12-color automatic screen-printing machine with a printing width of 54 ins. and a printing-table length of 59 ft.

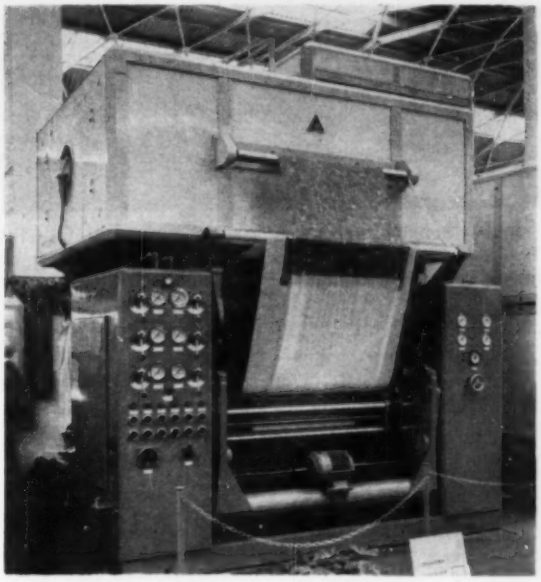


BALLED-TOP DYEING MACHINE shown by The Longclose Engineering Co. Ltd., Leeds, England. Dyeing is at 266° F., and dye channeling is prevented by automatic weighting by a cover over the spindle container. (U. S. sales by Atkinson, Haserick.)

Comerio Ercale S.p.A., Busto Arsizio, Italy, exhibited a new model of its 10-color automatic screen-printing machine.

Gebr. Stork & Co., Amsterdam, Holland, showed an automatic screen-printing machine, with specifications for printing up to 19 colors. Printing speeds on printing-plant production-run samples included: 700 yds. per hr. on terry toweling printed with pigment colors, 750 yds. per hr. on cotton furnishings fabric blotch-printed with vat colors, 580 yds. per hr. on triacetate jersey printed with dispersed colors, 900 yds. per hr. on nylon voile printed with a backgray and finished with dispersed colors, and 750 yds. per hr. on a cotton dobby fabric printed with reactive colors.

CONTINUOUS STOCK-DYEING MACHINE for staple shown by Fleissner & Sohn, Frankfurt, Germany, is explained to Prent Thomas, TEXTILE WORLD (left). Dyeing cycle is 2½ mins. (U. S. sales by Saco-Lowell.)

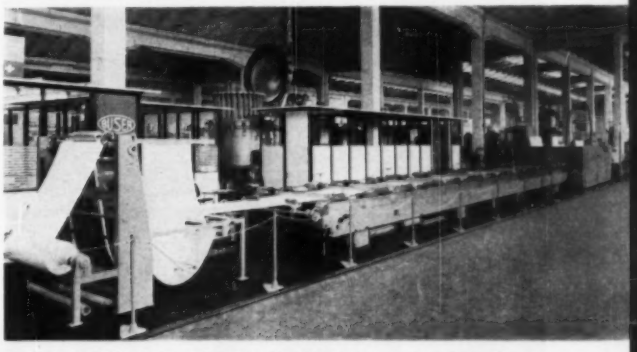


MULTICOLOR PRINTER AND PROCESSOR shown by Artos Maschinenbau included two components: the Heyne-Devin multicolor printer and the Artos dyeing and heat-treatment system. A single printing roll is used.

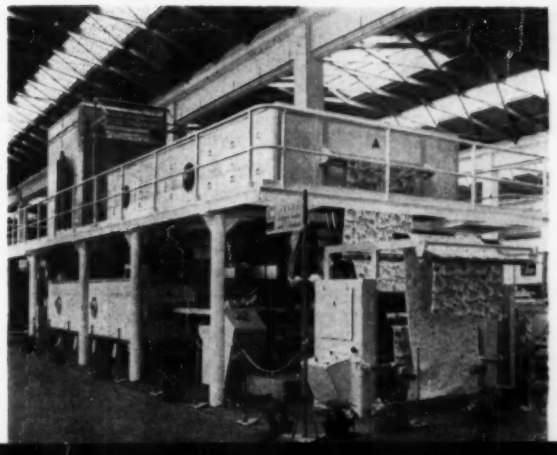
AUTOMATIC SCREEN PRINTERS

Six automatic screen printers dominated the finishing sector. They varied from simple four-color and six-color feed to 19-color and 24-color feed. Control of register was usually by electric switches, but in some cases electronic or magnetic controls were used.

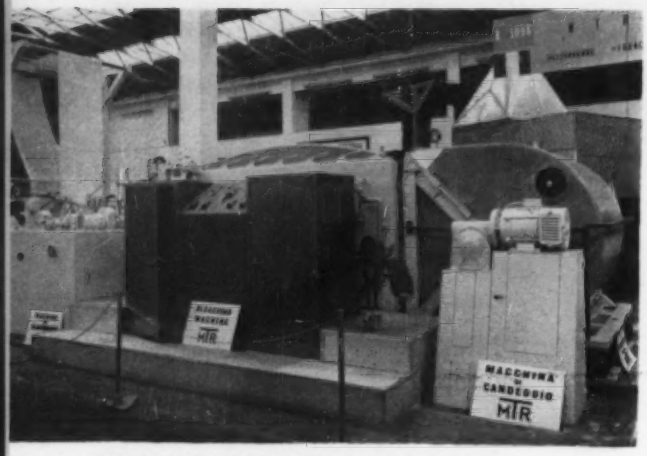
Two of the outstanding printers were the Artos (German) and the Buser (Swiss).



BUSER AUTOMATIC SCREEN PRINTER shown by Fritz Buser, Wiler/EBT, Switzerland, was a new model of the machine it has been selling for several years. Register control is by a hydraulic-magnetic arrangement to an accuracy of 0.2 mm. (1/128 in.). (U. S. sales by Jungfrau, Inc., New York, N. Y.)



ARTOS-STOFFEL AUTOMATIC SCREEN PRINTER shown by Artos Maschinenbau, Hamburg, Germany, handles up to 24 colors, with register electronically controlled to 0.1 mm. accuracy. (U. S. sales by Proctor & Schwartz, Philadelphia, Pa.)



SODIUM-CHLORITE BLEACHING MACHINE shown by Material Textile du Rhone, Villeurbanne, France. Bleaching speed is 50 to 60 meters a minute at 75° to 85° C. No chlorite fumes escape.

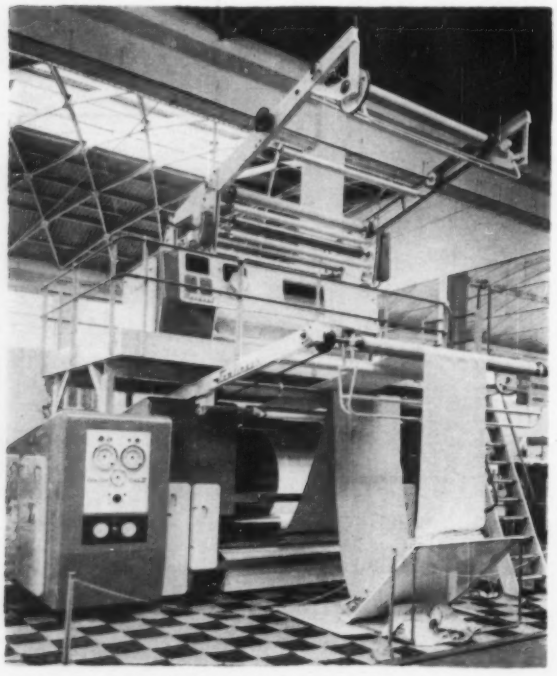
Zimmer's Erben KG, Klagenfurt, Austria, showed an automatic screen-printing machine that can be supplied with a printing width up to 72 ins. and a maximum repeat length of 80 ins. Control of repeats is by electric switches.

A short-cut system for dyeing balled top was shown by The Longclose Engineering Co., Leeds, England. The system consists of a single pressure dyeing machine in which temperatures up to 130° C. (266° F.) are developed. Four loading spindles are used, each contained in a dyeing compartment equipped with a self-adjusting top. As dyeing proceeds and the size of the balls of top is reduced, the compartment top lowers with the balls to maintain constant weight on them to prevent dye channeling.

A continuous stock-dyeing machine for viscose staple was shown by Fleissner & Sohn GMBH & Co. The sequence of operations consists of a hopper feeder, a wash bowl dye impregnator, squeezer, wet opener, and a dryer. Stock passes through the sequence in 2½ mins. (This stock-dyeing machine and Fleissner's tensionless dryer, also on display, will be sold in the U. S. by Saco-Lowell Shops.)

A multicolor printing and processing machine was shown by Artos Maschinenbau. The machine consists of two units: a multicolor printing machine developed by Heyne-Devin and an Artos drying and heat-treatment system.

In this machine, printing patterns are embossed on a single roll; but the construction of the machine makes other processing besides printing possible; for example, wetting, dyeing, anticrease treatment, heat-setting, waterproofing, etc.



A 36-ROLL NAPPER, succeeding its previous 30-roll Auto-Zero napper, was shown by Tomlinsons (Rochdale) Ltd., Rochdale, England. Working width of the machine ranges from 72 ins. to 109 ins.

Sodium-Chlorite Bleacher

A machine for bleaching with sodium chlorite and steam was shown by Material Textile du Rhone, Villeurbanne, France. Bleaching speed is 50 to 60 meters a minute at working temperatures of 75° to 85° C. Only one operator is required for the continuous operation of the machine.

The impregnating tank contains only cold chlorite, without an activator, to prevent escape of chlorite fumes. Cloth tension is controlled electronically, and cloth can be processed under high tension, low tension, or no tension.

An open-width continuous-processing machine built on the liquid-bath-steam-bath principle, with the squeezing calenders separated from the insulated bath compartments, was shown by Muller-Fichter, Thann, France. The machine is said to be adaptable for any open-width continuous processing for bleaching, dyeing, finishing, or printing.

Loading on the squeeze rolls can be mechanical or pneumatic up to three tons. Running length of fabric in the bath compartments can be 17 yds. in a double short course or 35 yds. in a double long course.

A new napper was shown by Tomlinsons (Rochdale) Ltd., Rochdale, England. Called the 36/AZ, the machine is a 36-roll napper succeeding the 30-roll Auto-Zero napper formerly built by Tomlinsons.

Features of the napper include: V-belt drive for napping rolls, variable napping energy through mechanical gearing, rolls mounted on ball bearings, and variable cloth speed.

Working width ranges from 72 ins. to 109 ins., and overall machine length is 14 ft. 3 ins.

Artos Maschinenbau showed its new rotary polymerizer, 30 of which are now in use. The machine is a continuous processing range for crease-resistant finishes. It consists of a padding mangle, predryer, tenter dryer, and polymerizer.

The main feature of the processing method is rapid heating of the cloth and holding the cloth at a constant controlled temperature during the run through the machine. The faster heating and closer control of heat are said to increase production significantly.

ELECTRONIC CONTROLS

The growing use of electronics in process control and in the detection and correction of imperfections was one of the highlights of the Milan show, as it has been in almost every exhibition since World War II.

Electronic controls were in use on many major textile-processing machines; for example, the cotton drawing frame, winding, weaving, all types of finishing equipment, warp tying in, and others. In almost every section of this report, the growing use of electronic controls is evident.

In addition to this type of adaptation of electronics in processing machinery, several new applications of electronics to testing and correction of imperfections were shown.

Zellweger Ltd., Uster (Zurich), Switzerland, pioneer in this use of electronics with its Zellweger-Uster line of production and testing equipment based on electronics, showed its new Uster Electronic slub catcher.

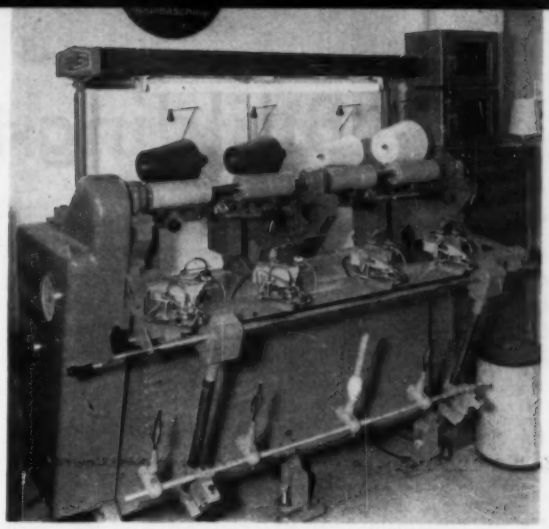
In this defect detecter, the yarn is wound from a bobbin onto a cone. During winding, the yarn passes through a scanning field and an electronic measuring device measures the imperfections (slubs) in the yarn. Limits of acceptability of slubs are set on the basis of a slub up to a certain size is more desirable than a knot in the yarn. When a slub larger than the acceptable size passes into the measuring field, the yarn is cut automatically and the machine stopped. The defect is then removed by hand, the yarn end tied, and the machine started again.

Winding speed of the Uster Electronic can vary from 300 to 1,500 yds. per min. The highest power supply needed is 16 v. d.c.

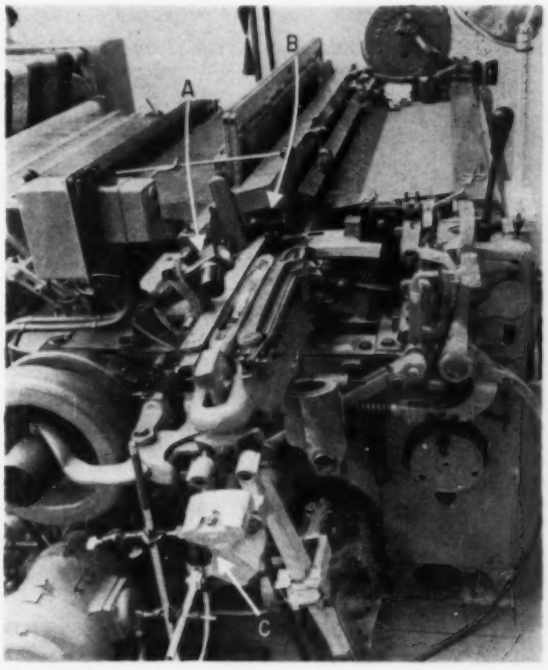
(This machine will be handled in the U. S. by Uster Corp., Charlotte, N. C.)

A somewhat similar instrument called the Electronic Slubcounter was shown by Qualitex, Enschede, Holland. This winder was a six-head winder equipped with electronic measuring devices, yarn cutters, and stop motion.

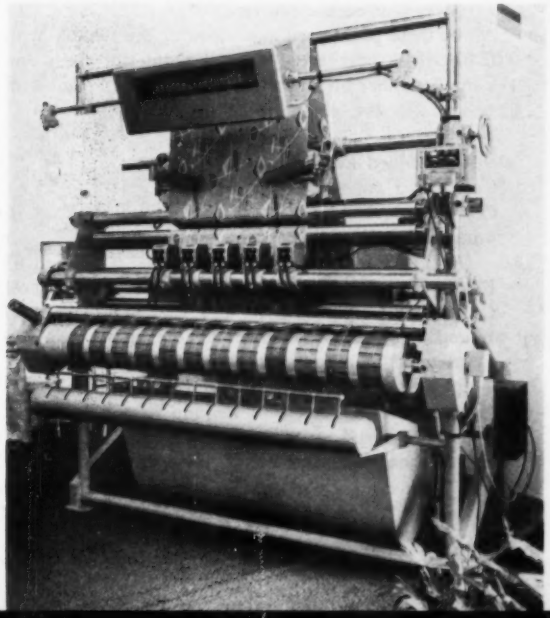
CONTINUED ON PAGE 176



THE USTER ELECTRONIC, a slubcatcher that uses electronic measurement to monitor yarn for unacceptable defects, was shown by Zellweger Ltd., Uster (Zurich), Switzerland. Yarn wound through the measuring field is cut and the machine stopped if an unacceptable defect enters the field. (U. S. sales by Uster Corp., Charlotte, N. C.)



FILLING FEELER FOR LOOMS that uses electronic scanning and control for extremely accurate filling control was shown by Loepfe Bros. Ltd., Zurich, Switzerland. Scanning head *A* throws a beam on the bobbin and head *B* on the filling under tension. If the bobbin is empty or the filling is not being inserted properly, the loom is stopped. An amplifier C is located back of the picker stick.



ELECTRONIC WEFT STRAIGHTENER shown by Erhardt & Leimer oHG, Augsburg, Germany. Running at speeds ranging from 3 to 200 meters a minute, the straightener uses a bowed-filling correction roll triggered for correction by an electronic control.

Building-Material Costs

• If you're planning a new building or modernizing an old one, here are comparative costs of exterior walls, floors, and roofs. These figures are based on 1959 labor and material costs in the South Carolina area, the center of the U.S. textile industry.

By S. B. ROBERTS

THE FOLLOWING UNIT MATERIAL COSTS for plant construction in the South Carolina area are based on 1959 labor and material costs; labor is for an open-shop operation. And because building materials are manufactured in most sections of the country, costs should be closely comparable.

The costs include everything required for a complete installation: all labor, materials, girders, subpurlins (where required), freight, sales tax, payroll taxes, all insurance, scaffolding, cleaning, etc.

But the costs do not include the general contractor's overhead and profit. The figures may be used for all jobs that involve carload quantities of the item.

Tradenames are arbitrarily selected as representative of a type of material, and other brands are equally satisfactorily.

You can compare costs per square foot of surfaces after you determine the materials suitable for your operation to be housed. For example, proper insulation or corrosion-resisting materials are required where indoor humidity causes condensation. Likewise, better construction than a plain concrete floor is needed where dust is prevalent.

Although they are weatherproof, some of the wall and roof materials are not tight enough for enclosing departments that operate under a positive or slightly negative pressure.

Roof and wall openings are more readily fitted into some of the materials.

Most building materials are so heavy or bulky that you should check their availability at the building site before you make comparisons. All costs in the following checklist are per square foot of wall, roof, and floor area and include installed cost.

Mr. Roberts, as vice president of Lockwood Greene Engineers, Inc., compiled these cost figures with the help of Daniel Construction Co.

WALLS

Common-Brick Walls

8-in. solid wall	$1.30
12-in. solid wall	1.80
10-in. cavity wall (4-in. brick, 2-in. air space, 4-in. brick)	1.46
14-in. core wall (4-in. brick, 2-in. foam glass, 8-in. brick)	2.26

Jumbo-Brick Walls

8-in. brick wall	0.90
10-in. cavity wall (4-in. brick, 2-in. air space, 4-in. brick)	1.22
12-in. brick wall	1.35
12-in. wall (8-in. brick, 4-in. glazed title)	2.10
14-in. core wall (4-in. brick, 2-in. foam glass, 8-in. brick)	1.81
14-in. cavity wall (4-in. brick, 2-in. air space, 8-in. brick)	1.40

Concrete-Block Walls

12-in. wall (4-in. brick, 8-in. block)	1.30
8-in. block wall	0.62
10-in. cavity wall (4-in. block, 2-in. air space, 4-in. block)	0.91
12-in. block wall	0.92
14-in. cavity wall (4-in. block, 2-in. air space, 8-in. block)	1.02
14-in. core wall (4-in. block, 2-in. foam glass, 8-in. block)	1.48

Prefabricated Panel Walls

Corrugated galvanized-iron sheets	$1.47
Corrugated aluminum (0.032-in. mill finish)	1.62
4-in. ribbed aluminum sheets (0.032-in. mill finish)	1.69
Fluted galvanized sheets	1.77
Corrugated Galbestos	1.83
Fluted steel sheets (baked-enamel outside face)	2.65
Corrugated aluminum (porcelainized outside face)	3.09
Corrugated steel sheets (porcelainized outside face)	3.17

All of these panels are assembled at the factory with 0.024-in.-thick corrugated aluminum interior sheet and 1½-in. glass-fiber board insulation. Erection weight with girders is 2½ lbs. per sq. ft.

Field-Assembled Panel Walls

Corrugated galvanized-iron sheets	1.61
Corrugated aluminum (0.032-in. mill finish)	1.76
4-in. ribbed aluminum sheets (0.032-in. mill finish)	1.83
Fluted galvanized-iron sheets	1.91
Corrugated Galbestos	1.97
Fluted steel sheets (baked-enamel outside face)	2.79
Corrugated aluminum (porcelainized outside face)	3.23
Corrugated steel sheets (porcelainized outside face)	3.31

All of these insulated metal wall panels are assem-

For Plant Construction

bled in the field with rigid 1½-in. glass-fiber insulation painted on one side.

Structural steel T-bar girders are erected for an over-all weight of 2½ lbs. per sq. ft.

Rigid-Cement Panel Walls

Without battens	$1.15
With battens	1.18
With corrugated galvanized iron sheets on exterior wall	1.26
With corrugated 0.032-in. aluminum sheets on exterior wall	1.39
With corrugated asbestos-cement sheets on exterior wall	1.39
With corrugated Galbestos sheets on exterior wall	1.85

All of these panels are 1⅛ in. thick with a core of laminated insulating fiberboard surfaced on both sides with rigid-cement asbestos boards.

Precast Concrete Panel Walls

6-in. reinforced concrete tilt-up panels including reinforced concrete poured-in-place tie columns	$0.85
8-in. reinforced concrete tilt-up panels including reinforced concrete poured-in-place tie columns	1.07
Marietta factory-cast plain 5-in. panels including caulking and 3¼ lbs. per sq. ft. with girders	3.12
Marietta factory-cast insulated panels including caulking and 3½ lbs. per sq. ft. with girders	3.62

Extruded Aluminum-Frame Panel Walls 3.90

Uninsulated Corrugated Siding

24-gauge galvanized iron	0.78
0.024-in. aluminum mill finish	0.85
Corrugated asbestos cement	0.94
24-gauge Galbestos	1.05
Corrugated translucent glass fiber (Corrulax)	1.17
26-gauge stainless steel, U.S.S. 12	1.33

All of this siding is on steel girders and includes girders and fastenings at 2½ lbs. per sq. ft.

ROOF DECKS

Slight Pitch

Poured-in-place gypsum on steel subpurlins and gypsum form board, 20-year bonded roofing	$0.55
Poured-in-place gypsum, as above, but with 2-in. foam-glass insulation and two-ply vapor seal	0.95
22-gauge steel deck, ½-in. rigid insulation board, 20-year bonded roofing	0.57
Poured-in-place gypsum on composition board including steel subpurlins, 20-year bonded roofing	0.61
Poured-in-place gypsum, as above, but with glass fiber	0.97
Poured-in-place gypsum, as above, but with 2-in. foam-glass insulation and two-ply vapor seal instead of glass fiber	1.01
Precast reinforced long-span gypsum tile, 20-year bonded roofing	0.65
Precast reinforced gypsum tile, as above, but with 2-in. foam-glass insulation and two-ply vapor seal	1.05
2¾-in. precast lightweight concrete channel tile, 20-year bonded roofing	0.75
2¾-in. precast channel tile, as above, but with 2-in. glass fiber	1.11
2¾-in. precast channel tile, as above, but with 2-in. foam-glass insulation and two-ply vapor seal instead of glass fiber	$1.15
2⅝x8-in. matched-pine treated roof plank on steel purlins with wood nailers, 20-year bonded roofing	0.80
2⅝x8-in. matched-pine, as above, but with 2-in. foam-glass insulation and two-ply vapor seal	1.20
Poured-in-place reinforced 5-in. concrete slab on removable form; includes an allowance of 12¢ for extra steel in purlins; 20-year bonded roofing	1.33
Poured-in-place concrete slab, as above, but with 2-in. foam-glass insulation and two-ply vapor seal	1.73

Steep Pitch

22-gauge corrugated iron sheets including fastenings and without insulation	0.41
Corrugated asbestos cement sheets including fastenings and without insulation	0.55
Corrugated Galbestos sheets including fastenings and without insulation	0.64
0.050-in.-thick V-beam aluminum sheets including fastenings and without insulation	0.87

FLOORS

6-in. monolithic reinforced concrete slab with floor hardener applied when set	$0.50
5¼-in. concrete slab with ¾-in. granolithic top finish for medium and light duty	0.55
3-in. creosoted edge-grain wood blocks on 5-in. concrete subfloor slab for heavy duty	$1.14
5¼-in. reinforced concrete floor with ¾-in. Kalman heavy-duty finish	0.70

Rio Grande Produces Good Crop of 1959 Cotton

USDA fiber and spinning tests on early-season cotton show that in comparison with the five-year average—

- Staple length and break factor are up
- Grades are slightly lower
- Length uniformity and maturity are off

By F. L. GERDES, Cotton Technologist, USDA, Retired

EARLY-SEASON COTTON from the Lower Rio Grande Valley has a higher yarn break factor and longer staple length than the five-year average for cotton produced in this area. Some of the improvement is attributed to increased planting of Delfos 9169 cotton, which staples as high as $1\frac{3}{32}$ ins.

Grades are lower than the preceding five-year average, and manufacturing waste is up. Average grade is Middling, whereas the five-year average is M+. Ginning practices seem to have improved, and more cotton with proper moisture content was produced this year.

Average Micronaire value is 4.5. This figure is the same as the five-year average and desirable from a manufacturing viewpoint.

Based on data from USDA fiber and spinning tests.

Fiber length uniformity and maturity, associated with increased fiber length as measured by the Fibrograph and classers' methods, are off.

Fiber tensile strength, 79,000 psi., is slightly lower than the five-year average.

Yarn Appearance Off

Yarn appearance was off for most of the lots tested. Neps average 13 per 100 sq. ins. of card web, the same as for the five-year average.

Mid-season lots compare favorably with early-season lots in quality. There are no differences in grade, staple length, upper-half mean length, and maturity.

Fiber tensile strength and yarn break factor are slightly lower; less manufacturing waste was produced; appearance index improved slightly.

Texas Rio Grande Valley Cotton

Properties	Season 1954	1955	1956	1957	1958	5-yr. average	1959
Grade index and designation	102 (M+)	100 (M)	101 (M)	104 (SM)	103 (SM)	102 (M+)	100 (M)
Staple length (1/32 in.)	32.8	33.0	33.8	34.0	32.5	33.2	33.8
Upper-half mean (ins.)	1.04	1.03	1.01	1.08	1.01	1.04	1.07
Uniformity ratio	80	81	80	80	80	80	78
Micronaire value	4.1	4.6	4.5	4.6	4.7	4.5	4.5
Maturity (%)	83	78	80	80	80	80	78
Tensile strength (1,000 psi.)	78	79	81	82	80	80	79
Manufacturing waste (%)	6.8	8.8	7.5	8.2	6.4	7.5	8.0
Neps (per 100 sq. ins. of card web)	14	6	12	8	13	13	13
Average break factor	2,180	2,200	2,300	2,410	2,240	2,230	2,360
Yarn-appearance index	109	106	105	111	102	106	92

FIBER PROPERTIES compare favorably with the five-year average and are better in some instances. Among the improved properties are yarn break factor and staple length.

OFFICINE GALILEO

T3C 4x1 with dobby

High speed automatic and non automatic looms with one or more colours, for wool, cotton, flax, silk and synthetic fibres.

S. T. I. Weaving Mill - Crespi d'Adda - equipped witc M1C cotton looms

OFFICINE GALILEO FLORENCE ITALY

MSL - MSL - MSL -

Your problems did it to us . . . so now we'd like to show you some of the things we've learned

Take the problem of crushproofing, for instance. From years in the laboratory and many hours in finishing plants (maybe yours was among them) Rohm & Haas textile men found a way to get crushproofing resins and reactants *inside* the fibers of fabrics.

You know these resins by the name, RHONITE. In polymeric and monomeric forms, they are widely used not only for crushproofing, but also for stabilization, stiffening, and durable calendered effects on cottons, synthetics and blends.

In developing products like these RHONITE resins, we also have found ways to streamline finishing operations, cut costs and improve the wearability and salability of fabrics. When you decide on a particular RHONITE, or any other of the many Rohm & Haas textile chemicals, you share this knowledge, too, at no extra charge.

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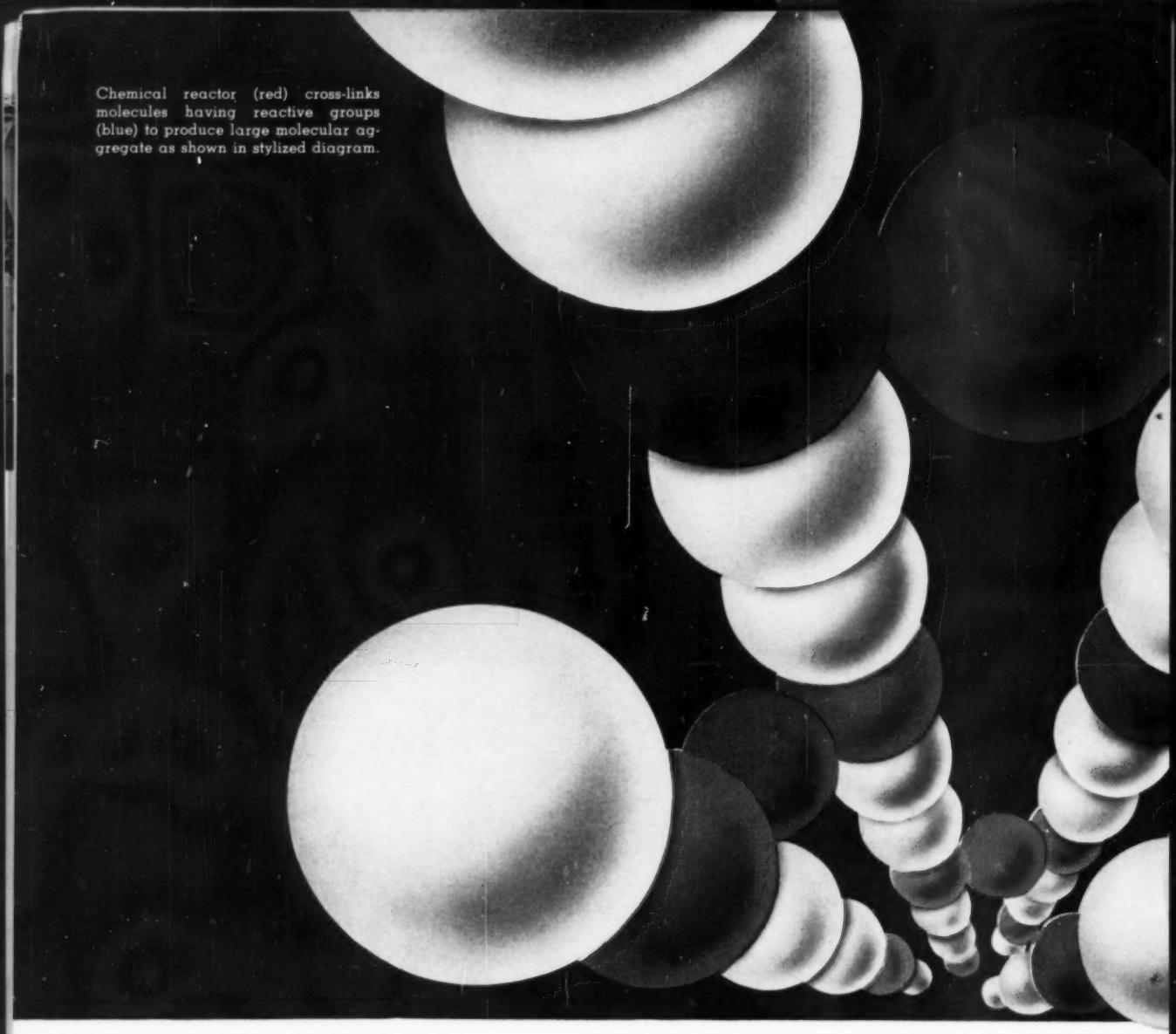
CIRCLE 77 ON READER SERVICE CARD 77



Chemical reactor (red) cross-links molecules having reactive groups (blue) to produce large molecular aggregate as shown in stylized diagram.

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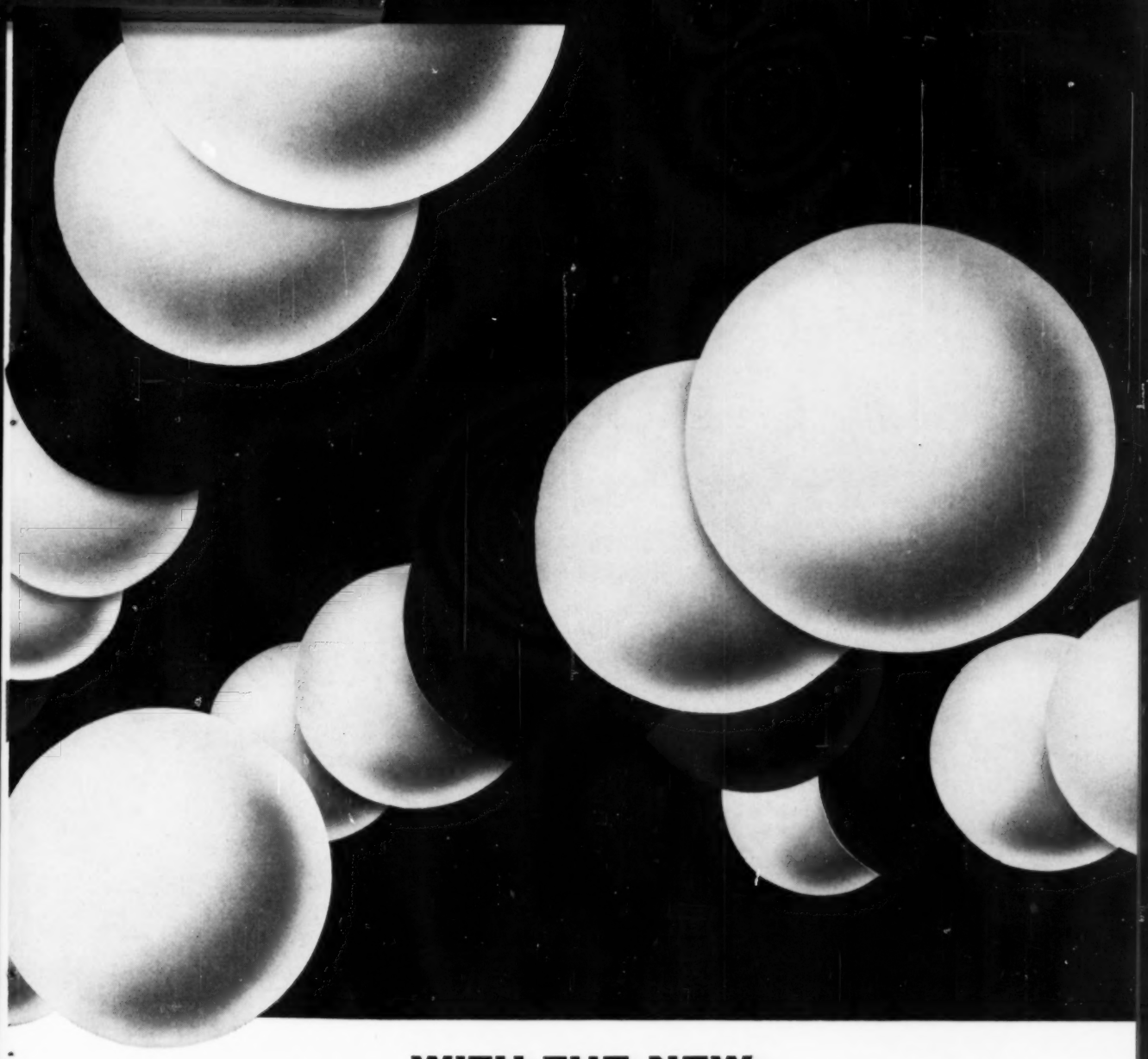

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Textile World

CHEMICAL TREATMENT AND FINISHING

IN THIS SECTION

THIS MONTH'S DEVELOPMENTS

Textile Chemicals 83
New Dyes and Chemicals 86

8th Chemical-Finishing Conference 87

Fiber Swelling Affects Degree of Cross-Linking 87
Quantitative Method Proves Cross-Link Theory 89
Chemical Stabilization Improves Knitted Fabrics 91
New Epoxy Resins Show Improved Effects 91
How Resins Are Deposited in Fabric 93
Silicone Alloys Improve Water Repellency 93

38th Annual AATCC Convention 95

Intersectional Contest Winners 95
How the Thermosol Process Works for Dacron-Cotton Blends 99
Use Vat Dyes for Union Shades on Zefran-Cotton Blends 99
Methods for Dyeing Arnel Blended With Orlon, Acrilan, and Cotton 101

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For color of unexcelled brilliance and durability, use GDC's INDANTHRENE YELLOW INFRA PASTES, premium quality Vat Dye pastes. The INDANTHRENE YELLOWS have attained great popularity and wide usage as the Vat Dyes of choice where yellow shades extending over the full color range are desired.

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CIRCLE 82 ON READER SERVICE CARD

Causticizing Improves Drip-Dry Finish—

A pretreatment with a 5 to 8% solution of caustic soda aids resin-finished cotton, rayon, or cotton-rayon-blend fabrics in resisting wet creasing, according to a procedure developed and patented by Courtaulds Ltd., England.

Typically, the procedure is to pretreat the fabric for 1 min. at 20° C. in a solution that contains 8% caustic soda and 8% sodium chloride, followed by rinsing and drying without creasing. The resin precondensate is made by reacting 1 mole of acetone, 4 moles of formaldehyde, and 0.1 mole of sodium carbonate for 5 hrs. at 25° C.

The causticized fabric is treated in an alkaline 20% solution of the precondensate, tenter dried, and cured at 140° for 2 mins.

The finished goods are left substantially free of wet creases after normal laundering procedures if they are drip-dried.

Radiation May Improve Fibers—

Nuclear radiation and radioisotopes are capable of producing improved textile fibers, according to a recent report by W. A. Newell, Director, Textile Research Center, N. C. State College School of Textiles, to the Third Industrial Nuclear Technology Conference.

Although radiation will ultimately degrade all fibers, there are intermediate degrees of exposure that can polymerize organic materials in or on the fiber to produce valuable modifications in hand, durability, or general utility.

Examples are vinyl or acrylonitrile monomers that polymerize readily in the presence of radiation. Experiments with undrawn acrylic, polyamide, and polyester fibers indicate that radiation will produce desirable cross-linking effects of suitable media with the fibers.

Cotton that has been treated with acrylonitrile and exposed to radiation shows by analysis that the polyacrylonitrile produced by the radiation is evenly distributed and firmly attached to the cellulose molecules. The over-all effect is the same as when acrylonitrile is applied to cotton by more-conventional methods.

Tips From the London Congress—

Papers presented at the Congress of the International Federation of Associations of Textile Chemists and Colourists at London recently carried many items of interest to U. S. textile chemists.

Outstanding highlights include:

Relation of Carriers To Dye Pickup

Investigations by P. Rochas and M. Courmont showed that it is the carrier that is absorbed within the fiber that actually accelerates dye pickup and that a two-bath method involving treating the fiber with carrier alone and then dyeing it in a fresh bath will produce greater dye pickup than the usual one-bath method.

As a check on the actual effect of carriers on the dye pickup of polyester fibers, tests were made in which carrier-treated yarn was freed of the volatile carriers used. Subsequent dyeings showed less dye pickup than would have been normal in the presence of the carriers but considerably more than noncarrier-dyed yarns.

The conclusion is that the carriers have a definite effect on the amorphous areas of the fiber and not on the dye in the dyebath. It is also apparent that carriers become strongly associated with the polymer molecules in the amorphous regions of the fiber in such a way as to help dyeing.

Excess amounts of carrier are less intimately associated with the fiber and are consequently easily washed out. The excess amount can have a detrimental effect on dyeing if the carrier is a good solvent for the dyes involved.

In **Wool Carbonizing,** H. Zahn found that if wool is carbonized and neutralized, the alkali solubility is not increased. If carbonized wool is stored under humid conditions, alkali solubility rises rapidly, but not if the wool is stored in a perfectly dry atmosphere.

Storage of carbonized wool for as little as two to four days in humid atmospheres will cause fiber degradation unless it has been neutralized.

One-Bath Vat Dyeing By the Pad-Roll Method was described in a paper by F. L. J. van Lamoen and H. Borsten. The key to this process is the formation of sodium sulfoxylate from a sodium hydro-sulfite-caustic solution by the addition of excess formaldehyde. The reduction potential of

such a reducing agent is high enough at room temperature so that vat dyes in pigment form are not reduced.

The vat-dye pigment is applied from a bath that includes the sodium sulfoxylate and excess formaldehyde. Reduction and fixation then occur in the pad-roll dwell chamber in 2 to 5 hrs. Oxidation and soaping follow conventional methods except that concentrations of oxidizing agents and acids may have to be increased for some dye combinations.

Continuous Dyeing of Wool and Wool-Nylon or Dacron Blends was discussed by H. R. Hirsbrunner. The principles involved in the method described are the use of a viscous solution of metal complex dyes that are padded on slubbing or piece goods, and a short steaming and/or drying process that partially fixes the dyes. Exposure to boiling acid (the acid-shock treatment) completes dye fixation without the bleeding that has been a fault of previous continuous-dyeing methods.

The thickening materials (ethyl cellulose and sodium alginate) are washed off in a conventional way. The method produces very level dyeings and has less effect on wool-fiber quality than prolonged boiling processes.

Barré-Free Dyeing of Nylon came in for discusion by J. B. Robin. In the method outlined, acid, metal-complex, and direct dyes are applicable to nylon goods in deep colors without the warp or filling streaks to which these fabrics are prone.

The process depends on the pretreatment of the fabric with Tintogil RM, a leveling agent comprised of anionic and cationic materials plus an antioxidant. The cationic agent acts on the dyestuff; and as dyeing progresses, the anionic agent leaves the dye sites and dye molecules move in. A bath pH of 3.5 to 4.0 is preferable, and level dyeing can be done in both pressure and conventional machines.

The Application of Reactive and Direct Dyes to Rayon Staple by Continuous Methods was described by R. C. Cheetham. The job can be done on the Fleissner machine, the Callaghan nonwoven-fabric machine, or possibly a modified wool-scouring train. Careful selection of dyes and dye combinations, close laboratory control, and standardization of processing steps make continuous dyeing of rayon staple practical.

New Process Makes Olefins Dyeable—

Olefin fibers such as polypropylene can be dyed readily after a treatment that has been developed by the French Petroleum Research Institute (Institut Francais Du Petrole).

No details of the chemicals involved have been released, but the process appears to involve a simple 1-min. dipping and rinsing in the treating solution, which contains 10 to 20% of the reagent. After this treatment, acid or basic dyes can be succesfully applied to the fiber. Polyethylene fiber also responds to the treatment but in lesser degree. The Institute has applied for patents and plans to license the process to European and U.S. olefin-yarn producers.

Magnesium Salts Stabilize Peroxide Baths—

Fine suspensions of magnesium silicate or magnesium hydroxide in peroxide bleach baths cut decomposition rates and reduce peroxide consumption by as much as two-thirds, according to a recent English report.

Expanding on the fairly well accepted fact that slightly hard water helps to stabilize peroxide baths, the English workers found that the presence of 0.5 to 1.0% of magnesium, either as a complex or in suspension, improved bath stability very greatly.

The insoluble magnesium compounds can be kept in suspension with nitrogen-bearing dispersants such as sodium N-oleoyl-p-anisidinesulfonate or sodium N-oleoyltaurate. Goods treated in baths of this type should be soured to remove traces of magnesium hydroxide. If magnesium silicate is present, traces will be found in the goods in spite of the dispersing agent.

Completely soluble and well-stabilized baths can be made up by using magnesium sulfate, ethylene diamine tetra-acetic acid, and caustic soda.

Trials with 0.7% magnesium silicate in a 2-vol. peroxide bath pH worked at 80° C. for 2 hrs. showed that strength remained above the 1.75-vol. level. A similar bath without the magnesium silicate fell off rapidly to about the 0.6-vol. level in 2 hrs. The bleaching effect of the well-stabilized bath was equal to that of the normal bath.

Magnesium chelates formed by interaction with ethylenediamine tetra-acetic acid have excellent stabilizing power also, although generally the chelation of metals inhibits their activity.

In the course of the investigation by W. L. Lead and A. S. Ramadan at the Nottingham and District Technical College, it was also noted that when stainless-steel bleaching equipment is served by copper or brass pipes, bleach-bath stability is lower and fluidities are higher.

Presetting Stabilizes Acrylic-Fiber Fabrics—

Woven or knitted acrylic fabrics can be made resistant to creasing, puckering, or fraying by a process just patented in England.

The goods are run in the open width at minimum tension through a water bath containing 3 to 5 grams per liter of formaldehyde and 0.1 gpl. of a stearylamine-ethylene oxide reaction product.

The period of treatment is 20 mins. at 90 to 95° C., and the goods are finally thoroughly chilled by sprinkling them with cold water on leaving the bath.

Other swelling agents such as formic acid, benzoic acid, or a phenol may be used, as well as dimethylformamide or dimethylacetamide.

Fiber based on polyacrylonitrile only, or copolymers of acrylonitrile with vinyl acetate, methyl acrylate, acrylamide, and methyl methacrylate, respond to the treatment.

New Wetting Agent Doesn't Foam—

A wetting agent based on 70 parts of the water-soluble sodium salt of N:N-dibenzylaminobenzene-4-sulfonic acid and 40 parts of water-insoluble tri-N-butyl phosphate has excellent wetting-out properties without developing foam. Developed by Durand & Huguenin A.G., in Switzerland, the mixture gives clear solutions in water because of the hydrotropic effect of the soluble element on the practically insoluble phosphate triester. At a concentration of 2 grams per liter, the product will wet out gray cotton in 10 secs. at room temperature.

SURDD Expedites Wash-and-Wear Research—

A task force formed at Southern Utilization Research & Development Div., U. S. Dept. of Agriculture, will put forth intensified efforts to improve wash-and-wear finishes.

Dr. C. H. Fisher, Director of SURDD, pointed out recently that wash-and-wear finishes are the most important development in cotton finishing in several decades and have increased cotton consumption by 10%. Special emphasis will be placed on the commercial possibilities of research developments and cooperation with garment manufacturers, laundries, state experiment stations, the Institute of Home Economics, and others engaged in research and application.

Did You Know . . .

. . . that a permanent firm hand can be developed on stretch-yarn fabrics? Heberlein & Co., Switzerland, has developed a method of heat-setting polyester, polyamide, or acrylic yarns that produces partial fusion of the filaments at intervals along the yarn length.

The net result is an over-all stiffening effect that produces a firmer hand on garments made from these yarns. The heat-setting range is from 30 to 3° C. below the actual melting point of the yarn, and the exposure time is 3 to 0.4 secs. Hot air is the setting medium.

●

. . . that fluorescent lamps vary greatly in their ability to cause color fading? Studies in Austria show that when the energy emission ratio is low in the 4,200- to 4,600-A range, little or no color fading is caused by fluorescent lamps. Lamps that operate in the 3,000° K range, such as Warmwhite De Luxe and Warmwhite 29, meet these conditions. Lamps that operate at 4,200° K and 6,500° K have more fading effect. These types are usually rated as Daylight or Cool Daylight.

NEW DYES AND CHEMICALS

Vat Dye

Indanthrene Maroon Brown B Infra Paste . . . is a homogeneous color that is particularly suitable for dyeing fabrics that will be washed frequently. In addition to good washfastness, the dye is economical, has good paste qualities, and is resistant to the effects of overreduction during application. General Aniline & Film Corp., Dyestuff & Chemical Div., 435 Hudson St., New York 14, N. Y. **Circle D-1 on Reader-Service Card**

Azoic Dyes

Metrozol . . . brands a line of colors especially developed for printing under neutral-ageing conditions, although acid-ageing is also satisfactory. The dyes are available in powder or liquid form. The range includes **Metrozol Yellow NG, Metrozol Scarlet N3R, Metrozol Scarlet FNR, Metrozol Red NG, Metrozol Red NR,** and **Metrozol Blue NB.** Metro-Atlantic, Inc., Centredale 11, R. I. **Circle D-2 on Reader-Service Card**

Chelating Agent

Plexene . . . chelates ferric iron through a pH range of 3 to 14. It is also effective in chelating calcium, magnesium, copper, and other di- and trivalent metals.

The product finds uses in dyeing, printing, scouring, and finishing operations. In addition to metal chelation, the product has a peptizing action on oils, fats, waxes, soil deposits, and carbon. Tanatex Chemical Corp., Belleville Turnpike, Kearny, N. J. **Circle D-3 on Reader-Service Card**

Disperse Dye

Foron Scarlet 3GFL Ultra-Dispersed p.a.f. . . . can be used to print or dye polyester or triacetate fabrics in red shades that are fast to light, washing, perspiration, and sublimation. For wool-reserve on wool-polyester blends, the very slight staining can be removed by standard cleaning methods. The dye can be used at temperatures up to 284° F. Sandoz, Inc., 61-63 Van Dam St., New York 13, N. Y. **Circle D-4 on Reader-Service Card**

Penetrant

Padding Auxiliary TX3032 . . . is useful in aiding penetration of vat dyes, particularly in the dyeing of gray goods with vat pigments by the pad-jig method. Putnam Chemical Corp., Beacon, N. Y. **Circle D-5 on Reader-Service Card**

Carrier

Palatinit TX5064 . . . is a nontoxic water-soluble product that is used as a carrier for disperse colors in dyeing hydrophobic fibers. The carrier is easily removed in an afterscour and thus does not develop odors on storage. Putnam Chemical Corp., Beacon, N. Y. **Circle D-6 on Reader-Service Card**

Wash-and-Wear Resin

Chlordare OR . . . stabilizes and provides crease-resistant qualities to cotton fabrics. The resin has high resistance to chlorine retention and odor development. It may be blended with softeners, builders, and silicone water repellents to obtain any desired finish. Metro-Atlantic, Inc., Centredale 11, R. I. **Circle D-7 on Reader-Service Card**

Disperse Dyes

Esterophile Colors . . . represent a group of disperse dyes that have outstanding fastness to sublimation and produce bright shades that are fast to light, washing, crocking, and drycleaning.

The dyes may be applied by pressure methods or with a carrier. Colors now available include **Esterophile Light Yellow 2RL, Esterophile Light Yellow 3RLL, Esterophile Light Red RBLL,** and **Esterophile Light Blue BJLL Extra.** Francolor, Inc., Woonsocket, R. I. **Circle D-8 on Reader-Service Card**

Carrier Emulsifier

Emkalar Base E-55 . . . will emulsify four times its weight of O-dichlorobenzene, three times its weight of butyl benzoate, twice its weight of O-phenylphenol or biphenyl, or an equal weight of methyl salicylate. Emkay Chemical Co., 319-325 Second St., Elizabeth, N. J. **Circle D-9 on Reader-Service Card**

Carrier

Emkalar 527 . . . is an easily dispersible preparation of O-phenylphenol that is stable in storage and produces deep shades on hydrophobic fibers with excellent color yield. Emkay Chemical Co., 319-326 Second St., Elizabeth, N. J. **Circle D-10 on Reader-Service Card**

Surfactant

Levapon THD . . . aids in boil-off, bleaching, and dyeing operations by promoting penetration and assuring good rewettability. The product is not sensitive to hard water and is particularly recommended for peroxide bleaching because it accelerates bleaching without speeding up bleach-bath decomposition. Verona Dyestuffs, Springfield Rd., Union, N. J. **Circle D-11 on Reader-Service Card**

Azoic Dye

Pharmol Brill. Green AN-16G . . . is a printing color that produces brilliant green shades by neutral-ageing methods. The dye can also be used for resist styles under aniline black. Lightfastness is excellent, and the color is only slightly sensitive to formaldehyde when it is printed with pigments. Verona Dyestuffs, Springfield Rd., Union, N. J. **Circle D-12 on Reader-Service Card**

Latex Backing

Maniflex 500 . . . is a nontoxic, nonflammable latex that cures at a low temperature and is used to back knitted fabrics. The product provides dimensional stability and dries to a clear, flexible film. Manufacturers Chemicals Co., Inc., 930 N. Darien St., Philadelphia 23, Pa. **Circle D-13 on Reader-Service Card**

Highlights From the 8th Chemical-Finishing Conference

• A new record was set last month when over 450 registrants attended the Chemical-Finishing Conference, sponsored by the National Cotton Council, in Washington, D. C.

• The year's progress in the development of better finishes and in a better understanding of how various chemical treatments actually affect cellulose are noted in these abstracts of papers presented at the conference.

Fiber Swelling Affects Degree of Cross-Linking

• The amount of water present in a fiber at the time of a cross-linking reaction has an important bearing on the rate of reaction; the extent of fiber stabilization by the cross-linking process; and the degree of dry and wet wrinkle resistance, regain, dyeability, and water of imbibition.

By WILSON A. REEVES, RITA M. PERKINS, and LEON H. CHANCE,
Southern Regional Research Laboratory

The wet and dry wrinkle resistance and wet and dry densities of fabrics finished with resins and reactants vary according to the amount of fiber swelling at the time of the reaction.

Fiber swelling in turn is dependent on the water present in the fiber and the treating solution. In these trials, all types of resins in common use were used in determining the effect of cross-linking on fiber behavior; but formaldehyde catalyzed with HCL was used as a basis for determining the effect of moisture content in the fiber at the time of reaction.

Formaldehyde forms a simple methylene bridge structure with cellulose that simplifies density determinations and estimation of actual cellulose-formaldehyde cross-linking.

Cross-linking tends to fix or stabilize a fiber in a given state of swelling; the stabilization is more effective when the cross-linking is done in nearly anhydrous systems.

There appears to be an optimum water content for cotton fiber at the time of reaction to produce maximum wet and dry crease resistance. As the water content in the reaction system is increased beyond the optimum, the degree of dry wrinkle resistance is unaffected.

How Cross-Linking Was Checked

The samples were treated in solutions of formaldehyde carrying varying amounts of water and acetic acid. Acetic acid is a relatively poor swelling agent for cotton.

The aqueous systems provided considerable swelling of the cotton before and after cross-linking, while the systems with large amounts of acetic acid inhibited fiber swelling.

The tests showed that the state of fiber swelling at the time of cross-linking had a tremendous effect on fiber structure and the physical properties of fabric made from the fibers.

A high degree of fiber swelling produced wet wrinkle resistance but no dry wrinkle resistance. Relatively little swelling resulted in a fabric with excellent all-around wash-and-wear characteristics, whether drip or tumble dried.

How Density Is Affected

The more highly reacted fabrics showed a higher wet density, which could be the result of filling existing fiber voids and the reaction of cross-linking agents that prevented swelling with water.

Cross-linking the fiber while it is in water or alkaline solutions also gives lower dry densities. Cross-linking fixes the dry fiber in a more-open or less-dense condition than exists in natural cotton fiber.

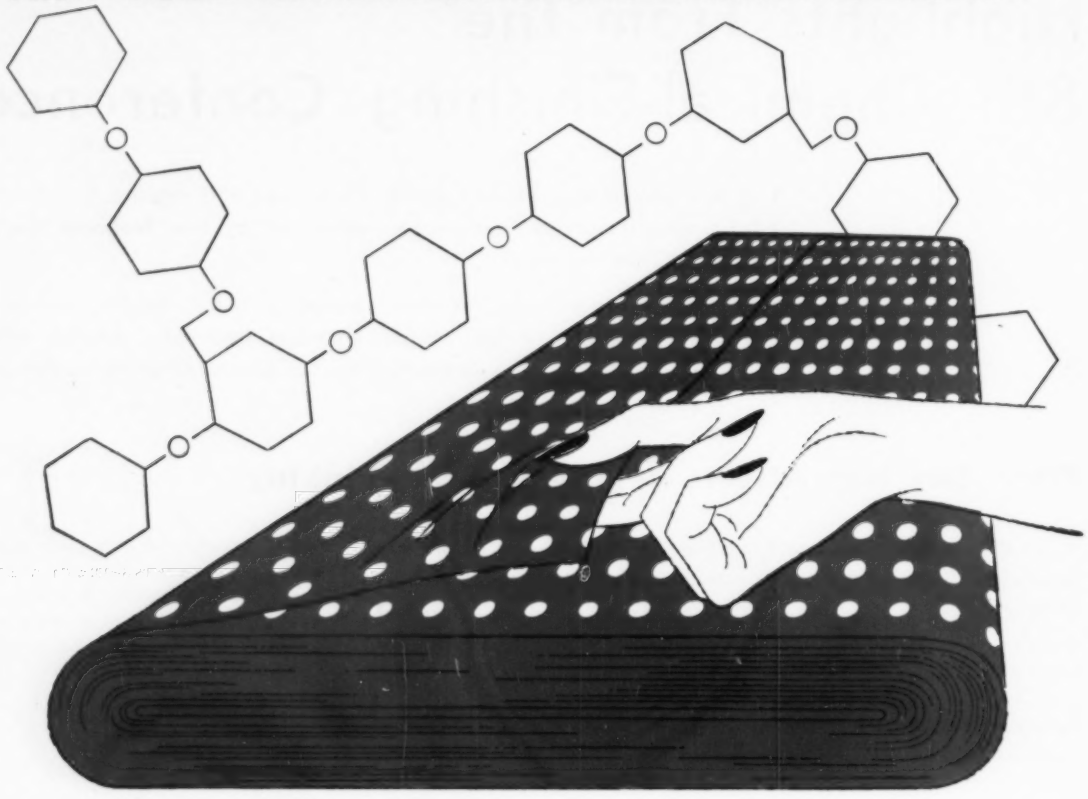
The degree of swelling at the time of cross-linking has permanent influence on the final state of openness in fiber.

Fabrics treated with formaldehyde at various water concentrations show a marked difference in dyeability.

Resistance to dyeing with direct colors is usually attributed to inaccessibility of the hydroxyl groups in cellulose. Chemical reaction and steric hindrance also cause dye resists. In this case, cross-linking is considered to be the affecting cause of dye resist.

Kosol

NEW COLD WATER DISPERSIBLE HAND BUILDER



IMPROVES HAND OF WASH 'N WEAR FABRICS

KOSOL is a new kind of hand builder. With a branched chain type structure that cross-links more readily with resins. Clear. Colorless. Gives a new fullness to wash 'n wear finishes.

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All the fabrics tested for dyeability had 0.6% combined formaldehyde but were reacted in systems containing various amounts of water. Fabrics cross-linked in systems containing 68% or more water dyed slightly darker than untreated control fabric. At 42% water, the dyeings were nearly as intense as the control.

At 18% or less water, there was considerable dye resist. The conclusion drawn from these results is that as the water content of the reaction system was decreased, cross-linking action reduced fiber pore size to the point of obstructing dye molecule entrance.

In the reactions involving 9% of water, the treated fabric showed lower moisture regain at 0.6 to 1.6% combined HCHO; but in a system containing 75% water, moisture regain increased rapidly as the combined HCHO rose from less than 0.2% to over 0.8%.

Water imbibition of cross-linked fibers is affected considerably by the amount of water present at the time of cross-linking, as well as the amount of combined HCHO. There is actually higher imbibition after the reaction-solution water content passes the 60% mark than there is on untreated control fabric.

The wet and dry wrinkle resistance of fabrics reacted in low-water solutions is superior to those treated in purely aqueous systems, and the former have generally superior wash-and-wear characteristics. Good dry wrinkle resistance is necesssary if fabrics are to be tumble dried.

The cross-linking mechanism responsible for wet and dry wrinkle resistance is suggested as a combination of cross-linking of covalent or primary valence bonds and cross-linking through secondary valence bonds plus the location of the cross-links.

Quantitative Method Proves Cross-Link Theory

• Cross-linking has been a generally accepted if unproved means by which various reactants convert cellulose into a wash-and-wear fiber. This paper describes a reaction of bis pyridinium salts of bis chloromethyl ethers of aliphatic glycols with cotton cellulose. The compound produces cross-links that are free of side reactions and that can be determined quantitatively.

By **GIULIANA C. TESORO**, J. P. Stevens & Co., Inc.

To determine the existence and actual quantity of cross-links in a cotton fiber that has been treated with a cross-linking agent, it is necessary to react the fiber with a compound that will form cross-links with cellulose only.

Side reactions such as polymerization or self-condensations must be avoided, and the functional groups of the reactant should react completely. The cross-linker should not contain functional groups such as hydroxyls that might become reaction sites and lead to the formation of polymeric side chains in a graft polymerization reaction.

If any decomposition takes place in the reaction, the by-products should be incapable of reaction with cellulose and easily removed. There should be little or no reaction of the cross-linker with water, and any products of such a reaction should not react with cellulose and they should be easily removed.

A suitable compound that will form cross-links with cellulose and meets the above conditions is based on bis pyridinium salts of bis chloromethyl ethers of aliphatic glycols.

The by-product of the reaction of such compounds with cellulose in water solution is pyridinium chloride, which is prevented from damaging the cellulose by including sodium acetate in the solution as a buffer.

How Reaction Was Carried Out

The bis quaternary compounds were applied in aqueous solution by padding on the weighed 80-square cotton samples to 80% pickup. The samples were dried at 100 to 120° F., cured, washed thoroughly, and dried.

All weighings were on a conditioned basis. Control samples padded in water and buffer salt were run for comparison purposes.

Moisture regain in plain and treated fabrics was essentially the same. Cross-linking under these conditions has no apparent effect on the moisture regain. The cross-links formed in the reaction were completely stable to laundering.

Crease recovery of samples treated with four of the bis quaternary compounds was proportional to the quantitative amount of cross-linking. Tensile and tear strengths also tend to fall as the number of cross-links increase but are also affected by the by-products of the reaction.

How Cross-Links Are Figured

Under carefully controlled conditions, the reaction of bis quaternary compounds on cellulose can be assessed quantitatively by the following formula:

$$\frac{\%\ \text{wt. gain}}{100} = \frac{1/2\ \text{cross-link mol. wt.}}{162Z + \text{cross-link mol. wt.}}$$

Z is the average number of glucose residues between junctions, and 162 is the molecular weight of a glucose group.

In addition to providing a basis for the quantitative determination of cross-links in treated fabrics, the compounds that were used in the trials provided useful crease recovery effects at tensile-strength losses no greater than are to be expected of many conventional compounds.

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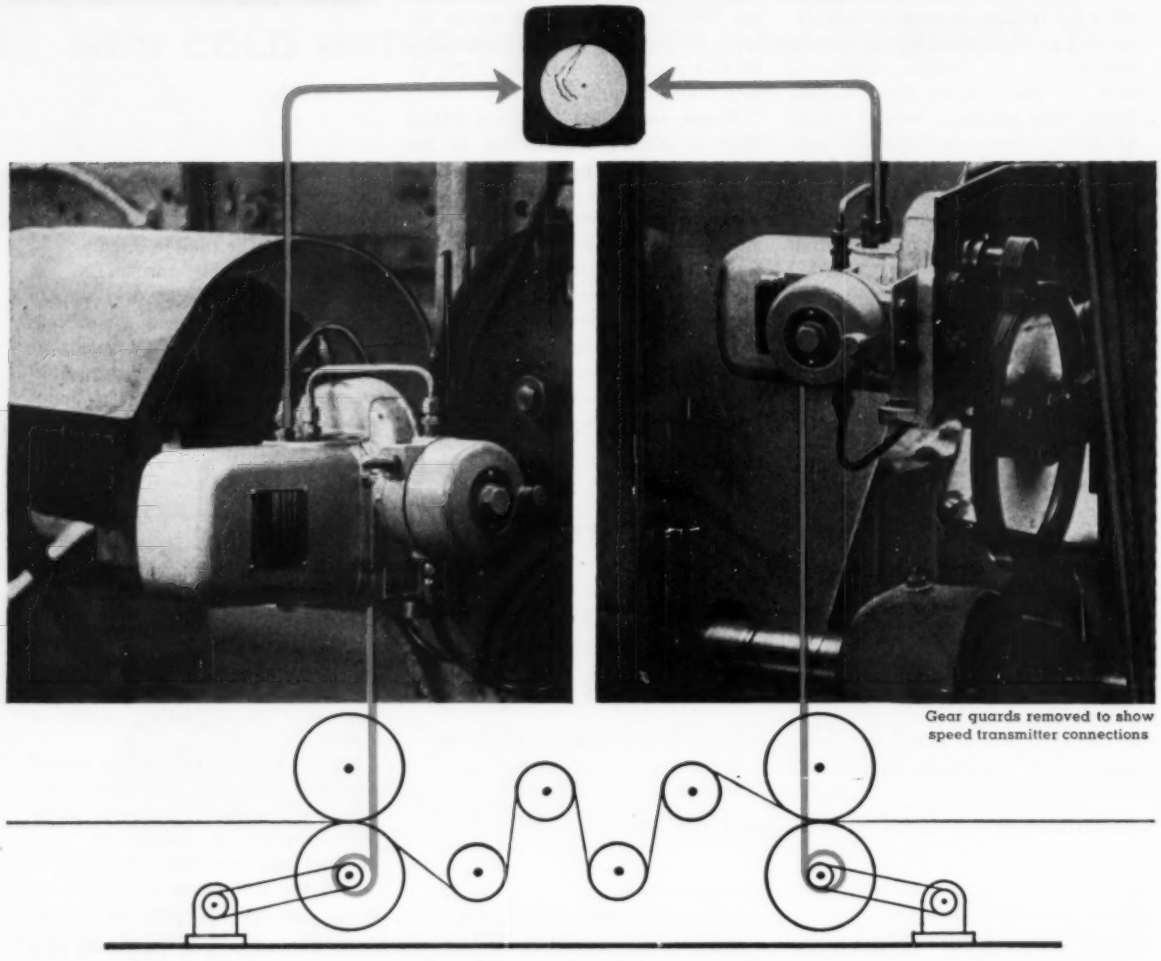

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Chemical Stabilization Improves Knitted-Fabric Performance

• Knitted fabrics gain several advantages when they are chemically stabilized. Among them are improved dimensional stability, better surface appearance, and easier care.

By J. B. IRVINE, Quaker Chemical Products Corp.

The application of chemical stabilizing materials to cotton knitted fabrics can cut shrinkage in half, improve the wash-and-wear appearance of the garment considerably, and provide considerable crease resistance.

The accompanying losses in bursting strength and abrasion have a minimum effect on knitted fabrics because of their flexibility.

The amounts of stabilizers necessary to create these effects are less for knitted than for woven fabrics.

Trials on knitted fabrics with all the common resins and reactants show that with 2 to 3% owf. of these products on the goods, length shrinkage can be cut from a normal 20% to 8 or 9%. The effect persists after five launderings.

The wash-and-wear rating for knitted fabrics carrying 3 to 5% owf. of various resins is 5, equal to the effect of 6 to 12% of the same resins on woven fabrics.

Crease-recovery angles for treated knitted fabrics vary more with the different resins, and it requires 5 to 8% owf. of the resins to produce recovery angles of 150°.

Bursting-strength losses are about equivalent to those that may be expected for resin-finished woven goods. Acetal and triazine resins have the least effect: in the 8% applications, original bursting strength goes from 50 lbs. to 36 lbs. for the acetal and from 45 lbs. to 30 lbs. for the triazine resin.

Appearance Is Helped

The initial appearance of chemically stabilized knitted fabrics is better, and there is a marked improvement in their ability to retain structural unity and a smooth surface.

New Epoxy Resins Show Improved Effects

• Further research on epoxy resins has resulted in new epoxides that have less effect on tensile strength and blend well with nitrogenous resins to produce more-durable finishes less affected by chlorine.

By JOHN GALLIGAN and ARNOLD M. SOOKNE
Harris Research Laboratories

Four new epoxy resins are compared against a commercially available epoxy resin in this investigation.

Of the four new resins, Epoxide IV, which is vinylcyclohexane dioxide, appears to have the most promise as a wash-and-wear finish medium and will shortly be available commercially.

All of the resins may be applied by conventional means; but because of lack of true solubility, the commercial epoxy resin and Epoxide I were emulsified for application.

Hydrolysis of the resins was controlled by buffering the treating solution when necessary. For Epoxide IV, a pH of 5.1 produced satisfactory stability in the presence of zinc fluoborate catalyst.

The resins were applied to 80-square fabrics and a 157x59 broadcloth shirting fabric.

Epoxide I, bis-(2.3, epoxy cyclopentyl)-ether, exhibits considerable yellowing of fabric treated with it although crease resistance is good. Epoxide III, 1,1,3-tris-(2,3-epoxypropoxy)-butane, shared with Epoxide IV a slightly more-favorable balance between crease recovery and retention of breaking strength in comparison with the other products tested.

Time Helps Curing

Relatively low curing temperature of 100° C. or even 75° C. is possible with the resin Epoxide IV if the curing time is extended and catalyst concentration is raised. However, a practical curing time of 140° C. for 3 mins. in the presence of 0.5% owf. of zinc fluoborate is suggested. Yields of epoxy resin bonded to the fabric under these conditions are 60 to 75% of the amount applied.

The resins tested showed considerable variation in their tendency to yellow fabric. Epoxide IV appears to offer some protection against yellowing, but Epoxide I and the commercially available resin tended to yellow the goods.

Epoxies Produce Cross-Links

Evidence of cross-linking is strong in fabrics treated with epoxy resins. Hydrolytic destruction of cross-links assumed to have been produced in epoxy-treated cottons restored the natural cotton properties and removed all the properties acquired by resin treatment.

Blends of epoxy resins and dimethylol ethylene urea on a 2-to-1 basis show that excellent crease resistance and little or no chlorine retention can be attained on treated fabrics.

Acid hydrolysis, which occurs in commercial laundry souring procedures, destroys most nitrogen-bearing resins in time but does not affect

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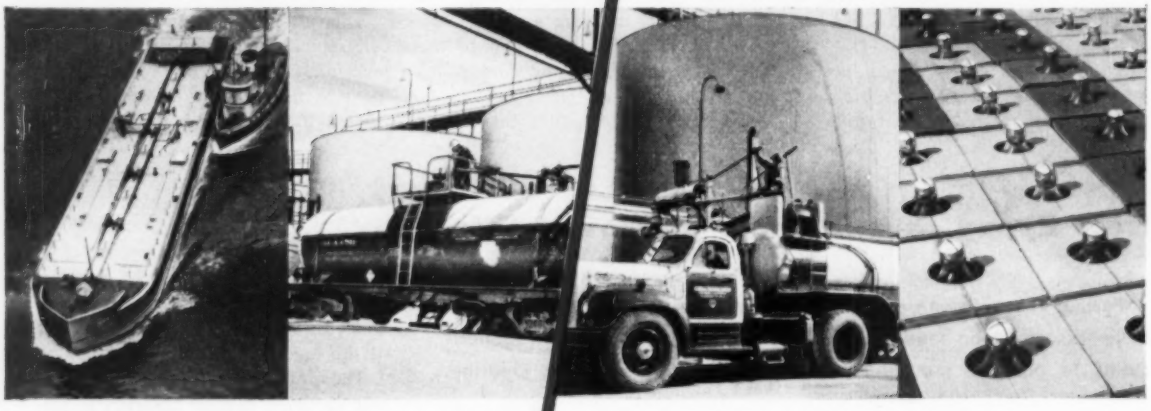

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epoxy resins. Blends of nitrogen-bearing resins with epoxies show somewhat increased resistance to acid hydrolysis. Except for severe stripping-type acid treatments, such blends should perform adequately in service.

Breaking Strengths Are Better

Fabrics treated with Epoxide IV retained 63% of initial strength at an add-on of 13%. Crease recovery was 71%. The next best resin was a triazone that produced goods with 62% of initial strength at a relatively low add-on of 5.8% and a crease-recovery angle of 75%.

Epoxide IV produced more-desirable wash-and-wear effects on men's shirtings than other products tested. Resistance to all common types of laundering was good. Shirts treated with other epoxides, nitrogen-bearing resins, and blends of these resins had better strength retention after repeated laundering than those finished with Epoxide IV, probably because the Epoxide IV finish was retained to a greater extent.

Conclusions drawn from this work are that epoxy resins have important qualities for wash-and-wear finishes. Blends of epoxy resins with the older nitrogenous resins are at present the best way to combat higher costs of straight epoxy finishes that require a higher add-on than the older resins.

How Resins Are Deposited in Fabric

• The method of application has little to do with actual deposition of resin in cotton or rayon fabrics. This paper shows that pad pressure determines only material add-on and unformity, and simple immersion or spraying without squeezing is sufficent to obtain crease resistance and a reduction in swelling.

By H. RATH, E. HERBOLSHEIMER, and S. STAPF
German Textile Research Institute, Reutlingen-Stuttgart

Pad pressure during the application of a resin has little effect on the actual resin content of the fibers. The water content of cotton in a water solution is about 30%; so at an expression of 100%, about 70% of the water-resin solution will be retained on the surface of fibers and by capillary effects between fibers. As drying progresses, much of the resin solution that is retained in capillary form enters the fiber to diffuse within it and produce the desired effect.

The pressures involved in padding serve primarily to insure evenness of impregnation and do not bear on crease resistance except that pressure regulates the amount of resin deposited in the goods.

Speed of padding also affects pickup: higher speeds tend to permit higher pickup of resin.

How Spraying Works

Resin solutions carrying 250 to 300 grams per liter of solids produce optimum crease-recovery effects when they are sprayed on fabrics at a pressure of 44 to 57 psi. One spraying nozzle, placed 3 to 4 ins. from the goods, was used in the tests on goods 14 ins. wide.

The wet pickup of the sprayed fabrics was about 55% as compared to 80% for padding methods.

The placement of the resin in the fiber was checked by adding a dye, Kiton Pure Blue V, to the precondensate at the time of application by either padding or spraying. In each case, tests and microscopic examination showed that the resin was equally well absorbed and distributed.

Hand, abrasion resistance, and general appearance of the goods is the same for both methods.

Spraying techniques appear to be practical for goods weighing less than 10 oz. per sq. yd. Present available spraying apparatus may have to be developed further to handle goods at full width. A closed spraying chamber might be the answer.

Silicone Alloys Improve Water Repellency

• Simultaneous polymerization of tetravinyl silane (TVS) and methyl hydrogen siloxane (MHS) with benzoyl peroxide as a catalyst produces a compound that gives excellent spray ratings on cotton and will retain 80 to 90 spray ratings after a 1-hr. boil in soap and water.

By C. J. CONNOR, W. A. REEVES, and L. H. CHANCE
Southern Regional Research Laboratories

A new silicone alloy made by polymerizing tetravinyl silane and methyl hydrogen siloxane, with benzoyl peroxide as a catalyst and methyl isobutyl ketone as a solvent, produces excellent water-repellent effects on cotton fabrics.

The treatment is very resistant to soap and detergent action. The alloy

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can be applied from an organic-solvent solution or aqueous emulsions.. Greater permanence to laundering was obtained by the solvent-application method.

Best results were obtained by first depositing ZrO_2 in the fabric by the double decomposition of a zirconium salt and NaOH and then padding the goods with a methyl isobutyl ketone solution of the silicone polymer or an aqueous emulsion of the silicone polymer.

The goods are dried and then cured for 5 mins. at 145° C.

A satisfactory one-step method is based on incorporating zirconium acetate or zirconium butoxide as catalysts in the treating solution or emulsion. Creaseproofing resins may also be incorporated in the formulation.

The laundering test was done with 0.5% soap chips and 0.2% soda ash, and the treated samples were boiled in this solution for 1 hr. A similar boiling test was carried out with 0.5% Tide. Home washing machines and conventional tumble dryers were used in the tests.

Catalysts Help the Effect

The alloy formed by polymerizing the tetravinyl silane and methyl hydrogen silane produces the best water-repellent effect when metal oxide catalysts such as ZnO, ZrO_2, CeO_2, or TiO_2 are present in the goods; and a curing temperature of 145° F. is adequate if the catalyst is present. ZrO_2 produces the best results at an add-on of 0.4 to 0.8%.

The basic treating solution or emulsion contains 3.0% of a TVS-MHS polymer at a ratio of 1 to 5. Normal padding, drying, and curing methods are used in the process.

Fabrics that had been treated with triazone resins and then with the TVS-MHS polymer plus ZrO_2 catalyst gave initial spray ratings of 100 and ratings of 80 to 90 after the soap boil.

Color, hand, abrasion resistance, and tensile strength of treated fabrics are excellent. None of the samples had strip breaking-strength loss of over 8%, and abrasion resistance was somewhat higher in the water-repellent samples than in the untreated controls.

Add-ons of 1.0 to 2.5% are adequate to give excellent results on several types of fabrics, including some that had been given flameproofing treatment.

38th Annual AATCC Convention

- The American Association of Textile Chemists & Colorists met in Washington last month with over 1,700 members participating.
- Three symposiums, devoted to wash-and-wear, the dyeing and finishing of blends, and new dyeing and finishing processes, produced 14 papers on these subjects. The Intersectional Contest winner and the most important papers presented at the symposium are condensed here.

INTERSECTIONAL CONTEST WINNERS

First-Prize Winner—
Northern New England Section

Olney Award Winner

Dr. EMERY L. VALKO (right), Lowell Technological Institute, receives the Olney Award Medal from P. L. Meunier, E. I. du Pont de Nemours & Co., Inc., Penns Grove, N. J. Dr. Valko is the 16th recipient of the Olney Medal, which is awarded annually for outstanding achievement in textile chemistry.

Compressibility Of Pile Fabrics

Tests on 41 pile fabrics in a wide range of weights and pile heights were the basis for the development of a useful equation that will predict fabric compressibility.

The pile material chosen was Dynel fiber. It was found that the density of the pile, the height of the pile, and the denier of the pile yarn are the critical factors in resistance of a pile fabric to crushing.

Pile height is the most important

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factor; and the weight of the fabric is also important, particularly when the pile is over 1 in. high.

The effect of fiber denier is quite marked in compressibility tests. Piles made from 3-den. fiber can be expected to compress 14% more than fabrics made of 12-den. fibers. Strangely enough, fabrics made from a 50-50 blend of 3- and 12-den. fibers had almost the same compression resistance as fabrics made from all 12-den. yarn.

The important new quantitative relationship relates compressibility to fabric construction:

$$S = k \log\left[\frac{h\sqrt{l}}{Nd^{1.2}}\right] - k \log\left[l + 1/2\,\frac{h\sqrt{l}}{Nd^{1.2}}\right] + C$$

where S is the percent decrease in pile height h under load l for a fabric containing N fibers (per unit area) of denier d; k and C are constants, the former representing the slope of this straight line and the latter the intercept. This equation tells us, for example, that a fabric prepared from 3-den. fibers will be compressed 14% more than a similar fabric prepared from 12-den. fibers.

Second-Prize Winner—Piedmont Section

Accelerant Dyeing Of Hydrophobic Fibers

Many facets of the behavior of accelerants as assistants to dyeing the hydrophobic fibers are explored in this study.

The primary conclusion drawn from the work is that carriers get inside the fiber and loosen the internal molecular structure so that the dye may enter the fiber. Fiber bonds are replaced with more easily ruptured carrier-fiber bonds.

Also, apparently the swelling action of a carrier has little or no effect on actual dyeing rate. The persistence of a portion of carrier in the fiber after scouring indicates a carrier-fiber bond of some strength. A carrier must be quite soluble in the fiber to be of help in dyeing, and certain surfactants tend to decrease carrier action.

The rate of diffusion of disperse dyes has an important effect on the rate of dyeing; dyes that diffuse slowly require more carrier than fast-diffusing colors. High liquor ratios also slow down the dyeing rate because the bath competes with the fiber for the carrier.

Heat treatment of hydrophobic fibers before dyeing increases the internal fiber bonds and makes it more difficult for carriers to enter and also cuts down the possible dye sites by increasing crystallization of the fiber.

In dyeing blends of hydrophobic fibers with cotton or wool, staining is reduced if carrier action is adequate and the dyebath pH is adjusted to meet specific conditions.

Third-Prize Winner—Delaware Valley Section

Fluorescent Brighteners And Bluing Agents for Wool Processing

Fluorescent brighteners and blue dyes are used to tint wool to a more pleasing color than the natural fiber possesses. Generally, the dyes that are used for the purpose have poor fastness to light or wet processing or both.

Application is seldom uniform; and the tint may drift in following scouring processes, which will cause difficulty in matching light shades later.

The fluorescent whites are particularly troublesome in this respect and also migrate to man-made fibers if they are included in a blend.

Combinations of fluorescent brighteners with methylene [sic] violet and methylene blue give the best whitening effects when applied to raw stock in a scouring train.

Another widely used combination is Acid Violet 43 with Fluorescent Brightener 68.

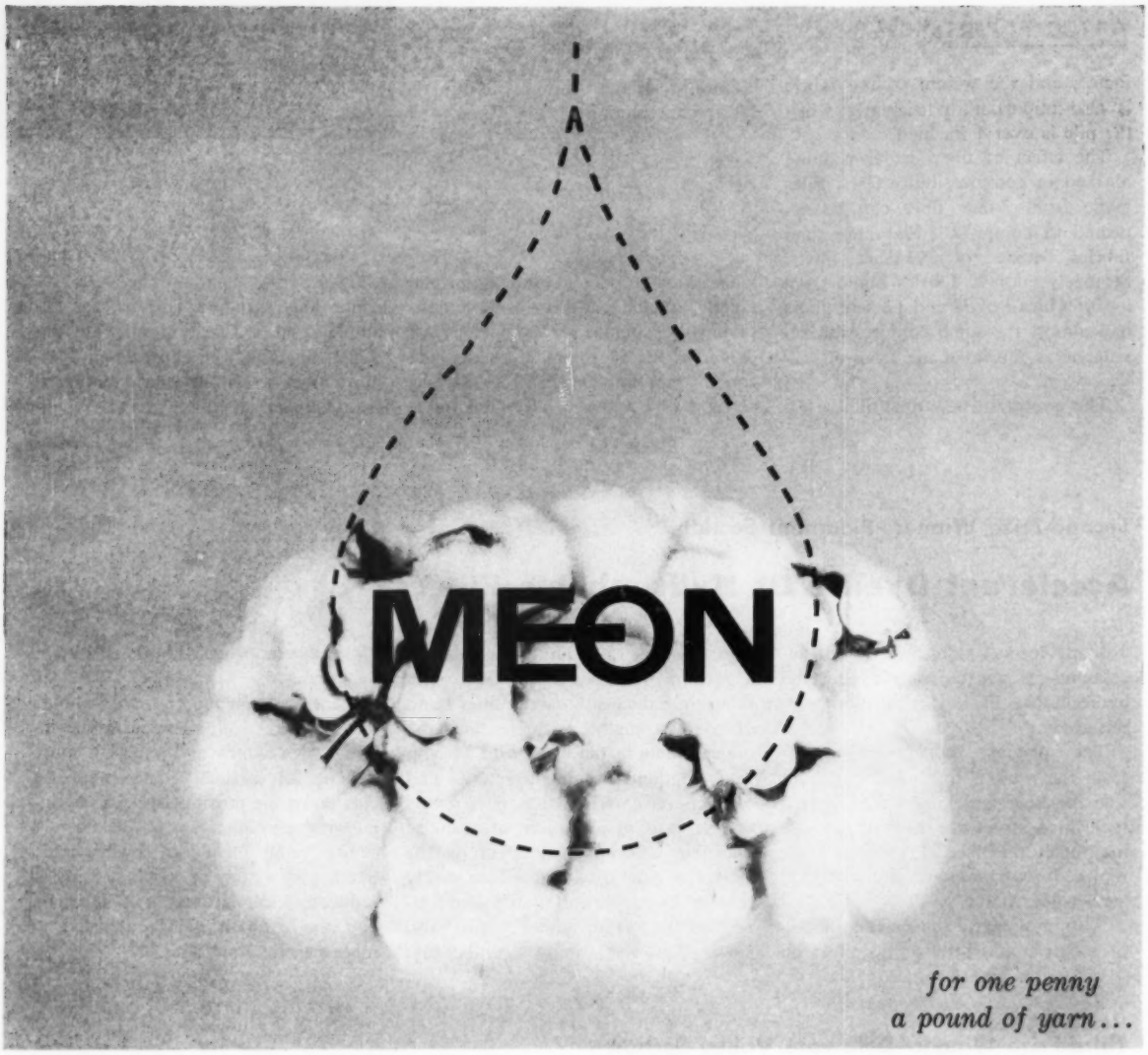
Choice of bluing agents depend on customers' preference for shade.

What's New in Bleaching

By BERNARD K. EASTON

The trend toward blending man-made fibers with cotton has required the development of different bleaching methods than those that have worked well for all-cotton fabrics.

In the case of cotton-Arnel blends, alkalinity has to be controlled to avoid saponification of the Arnel. Typical bleaching procedures for jig work include acid-activated chlorite, peroxide plus 0.9% NaOH on the weight of the liquor, and peroxide with 1.5% TSPP owl. Also, good results can be



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obtained with peroxide buffered with disodium phosphate, borax, and very small amounts of NaOH.

Similar formulations have worked well in continuous systems.

How To Handle Acrylics

Acrilan-cotton and Zefran-cotton blends are similar in bleaching characteristics. Inorganic peroxygen products tend to yellow both Acrilan and Zefran, apparently due to the presence of titanium sulfate. For this reason, peracetic acid and sodium chlorite are preferred bleaching agents in jig processes.

Peracetic acid is buffered with hexametaphosphate; the sodium chlorite may be activated with formic acid. Peracetic-acid bleaches are preceded by two ends in ¼% H_2SO_4 owl., to which is added the bleaching and buffering agents.

Some satisfactory bottoms but not full whites are obtainable with peroxide bleaches.

Dacron-cotton blends can be bleached with peroxide solutions buffered mostly with sodium silicate. A pretreatment in continuous systems can be based on saturation in 1% NaOH, 0.3% TSPP, and 0.2% of a nonionic detergent, followed by a 4-hr. layover before bleaching.

Kodel-cotton blends respond well to peroxide-silicate jig baths; and with a pretreatment similar to that given Dacron-cotton blends, they can be bleached successfully in continuous ranges with conventional peroxide formulations.

Many mills are now running two strands of goods in continuous ranges that produce up to 400 yds. per min.

Pressure-kier bleaching is also of current interest. Temperatures should be kept at 212 to 215° F. and will cut open-kier bleaching time by 30%.

Open-Width Methods Gain

Difficulties with rope-bleaching methods have increased the use of open-width methods. The latest developments in these systems overcome some of the objections of earlier types.

A new pressurized open-width machine is soon to be available.

Batch methods of cold peroxide bleaching have been simplified to reduce the time required to get good bottoming and high reflectance values.

An accelerated bleach can also be obtained by padding on bleach solutions cold and then putting the goods through a dyeing steamer, batching, and letting them lie for 2 hrs. A boil-off on a progressive jig followed by mercerizing completes the process.

Pressure jigs have also proved useful in batch bleaching, as well as the pad-roll machine.

An improvement on the old cold-bleach method has been made by including potassium persulfate in the saturating bath. The primary improvement appears to be greater absorbency of the bleached goods with all other important qualities about equal.

How the Thermosol Process Works For Dacron-Cotton Blends

By J. J. IANNARONE and W. J. WYGAND

The Thermosol process of dyeing Dacron-cotton blends is successful if the proper disperse dyes are used and operating temperatures are carefully controlled.

The process involves thorough preparation of the goods to remove all dust and oil, followed by padding on a carefully prepared disperse-dye solution.

The goods are dried in such a way as to minimize migration and then pass into a roller-type curing oven where they are exposed to a temperature of 425 to 450° F. for 45 to 90 secs.

If the cotton component is to be dyed, vat dyes can be used to dye both fibers if the fixation time is at least 90 secs. at 410 to 425° F. For heavy shades, it is preferable to dye the Dacron first and dye the cotton by conventional methods.

It is possible to pad on vat and disperse dyes together; but this method presents a number of problems that, while not unsolvable, make the method difficult.

Fiber-reactive dyes and disperse dyes can be applied simultaneously to Dacron-cotton blends by combining the Thermofix and Thermosol processes. The necessary alkalinity for the reactive dyes can affect the disperse dyes, but careful selection plus dispersing agents mitigate the trouble.

Disperse dyes may not develop full shades under these conditions, however. The strong solutions necessary may also cut the efficiency of the fiber-reactive dyes.

Use Vat Dyes for Union Shades On Zefran-Cotton Blends

By ROBERT L. BURGESS

Blends of Zefran and cotton can be dyed to good unions with vat dyes by methods familiar to cotton dyers. Basically the vat dyes have equivalent color yields for both cotton and Zefran. Either pigment or reduced application methods can be used. The pigment method is recommended where it is applicable.

There are differences between vat-

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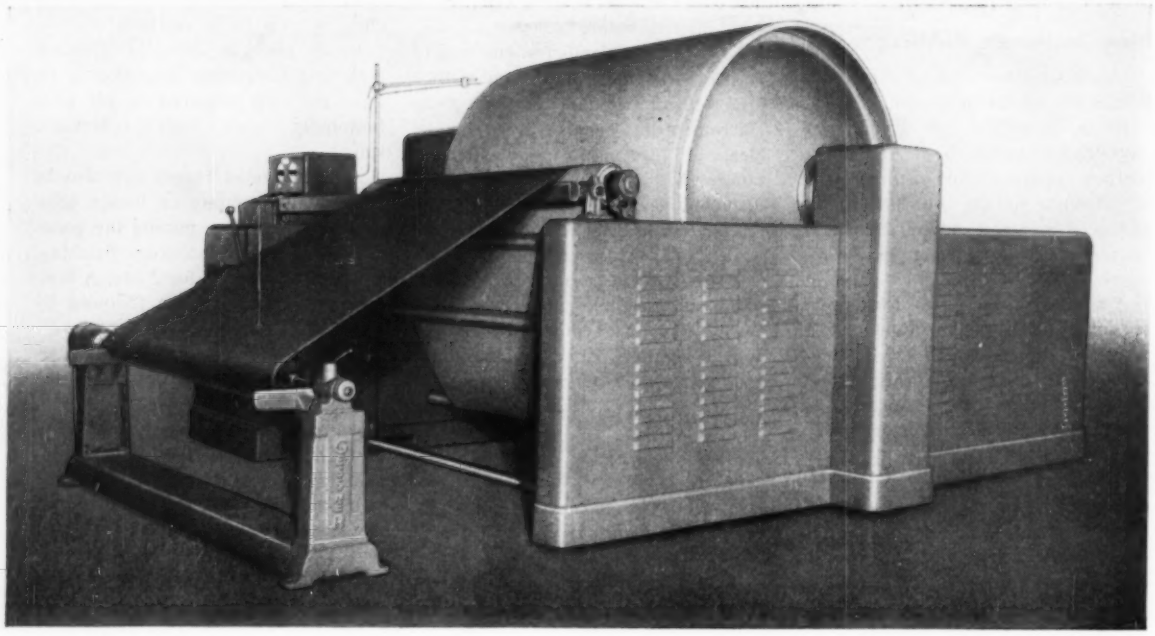

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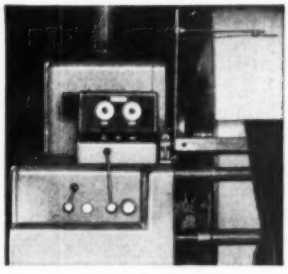
1. Hydraulic drive and infinite speed variations, and controlled pressure roll; 2. High operating speeds made possible by (a) the automatic apron tension control, (b) the automatic apron guider; 3. Foolproof, internally heated steaming cylinder; 4. Throttle steam with automatic cycle; 5. 60" Versamatic will decate 8 pieces or more of woolens or worsteds, and upwards of 1000 yards of synthetics per loading.



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dye behavior on cotton and Zefran. The hot, warm, and cold-dyeing classifications for vat dyes on cotton do not apply to Zefran. Excessive caustic soda has less effect on the exhauston of vat dyes on Zefran than on cotton.

Light and medium shades are dyed on Zefran at low temperatures and heavier shades at temperatures ranging from 160 to 180° F. Most vat dyes exhaust better on cotton at low temperatures.

Long bath ratios, low electrolyte concentrations, leveling agents, and increased alkalinity have less effect on exhaustion of vat dyestuffs on Zefran than on cotton.

How Package Dyeing Is Handled

Both the pigment and reduced methods can be used to dye Zefran-cotton blends.

The hot-dyeing group, of which C.I. Vat Green 3 is an example, produces unions without a reserving agent in the lightest shades.

The warm-dyeing group gives union shades readily; but in very light shades, a reserving agent is necessary to cut the rate of strike of the color on Zefran.

In the cold-dyeing range, salt, less alkali, and a reserving agent are necessary to get good buildup on the cotton component. Mode shades that require several dyes are best matched with dyes of the same class.

A reserving agent such as Preventol GDC is satisfactory in aiding the production of good unions.

Piece Dyeing Is Conventional

Zefran-cotton blends can be dyed to unions with vat colors by the pad-steam process with a minimum of formula adjustment. For pad-jig processes, the same considerations apply as for package dyeing.

In order to get good results in dyeing light shades by the pad-jig method, it is advisable to adjust the formula so that no dye need be added to the jig. The bath ratio should be low, and common salt should be added. Use the minimum temperature to get good reduction and keep the alkali content low.

A leveling agent should not be used. The reserve agent can be padded on along with the dye.

Medium and heavy shades can be dyed to good unions by manipulating the temperature. Medium shades dye well at 120 to 140° F. Dark shades do better at 160 to 180° F.

Methods for Dyeing Arnel Blended With Orlon, Acrilan, or Cotton

By RALPH E. LACY and JACK DAGVAULT

A one-bath process for dyeing Arnel-Orlon 50-50 blended knitted goods involves selection of suitable disperse dyes for the Arnel and cationic dyes for the Orlon.

Union effects can be obtained also on Arnel-Acrilan by selective use of disperse dyes only or disperse and cationic dye combinations.

A typical procedure for dyeing Arnel-Orlon includes scouring the fabric with 1% nonionic or anionic surfactant plus 1.0 TSPP. Then, in a fresh bath, add 0.5 to 1.0% Igepon T and 1.0% monosodium phosphate and 2% disodium phosphate. The bath is run 5 to 10 mins. at 120° F. Then the cationic dyes, dissolved in methyl alcohol and water, are added. Run 5 to 10 mins., and then add the disperse colors plus 0.5 to 1.0% Latyl Carrier A.

The temperature is raised to 180° F. in 30 mins. and then to the boil in 30 mins.

Run 60 to 90 mins, at the boil, cool to 180° F. if adds are needed, or cool by radiation to 160° F. if the shade is matched.

Add any needed inhibitors during the 180 to 190° F. stage. Rinse and scour heavy shades at 130° F. with 1% nonionic surfactant.

Finishes may be applied in a final rinse.

How to Dye Arnel-Acrilan Blends

For Arnel-Acrilan blends, the bath is set with Igepon T at 110 to 120° F. and the dissolved disperse dyes are added. The bath is raised to the boil in 45 mins. and kept at the boil for 45 to 60 mins. If necessary, the Acrilan can be filled in by adding cationic dyes at 180° F. with 3% urea. Slow cooling at the match is followed by a light scour for heavy shades.

Arnel reserves can be produced by using cationic, acid, or premetallized dyes for the Acrilan by the methods recommended by Chemstrand Corp.

Arnel-cotton blends are first prepared by an alkaline scour, and union shades can be produced with disperse dyes for the Arnel and selected after-treated direct dyes for the cotton.

Bleached whites can be produced by peroxide-bleach methods. Where it is necessary to bleach the cotton component before dyeing, a buffered bleach bath will prevent saponification of the Arnel.

Finishing procedures for Arnel-cotton blends may include resins if it is necessary to build up hand. Normally, 1.0 to 3.0% of a cationic softener is adequate to produce a very acceptable, soft hand.

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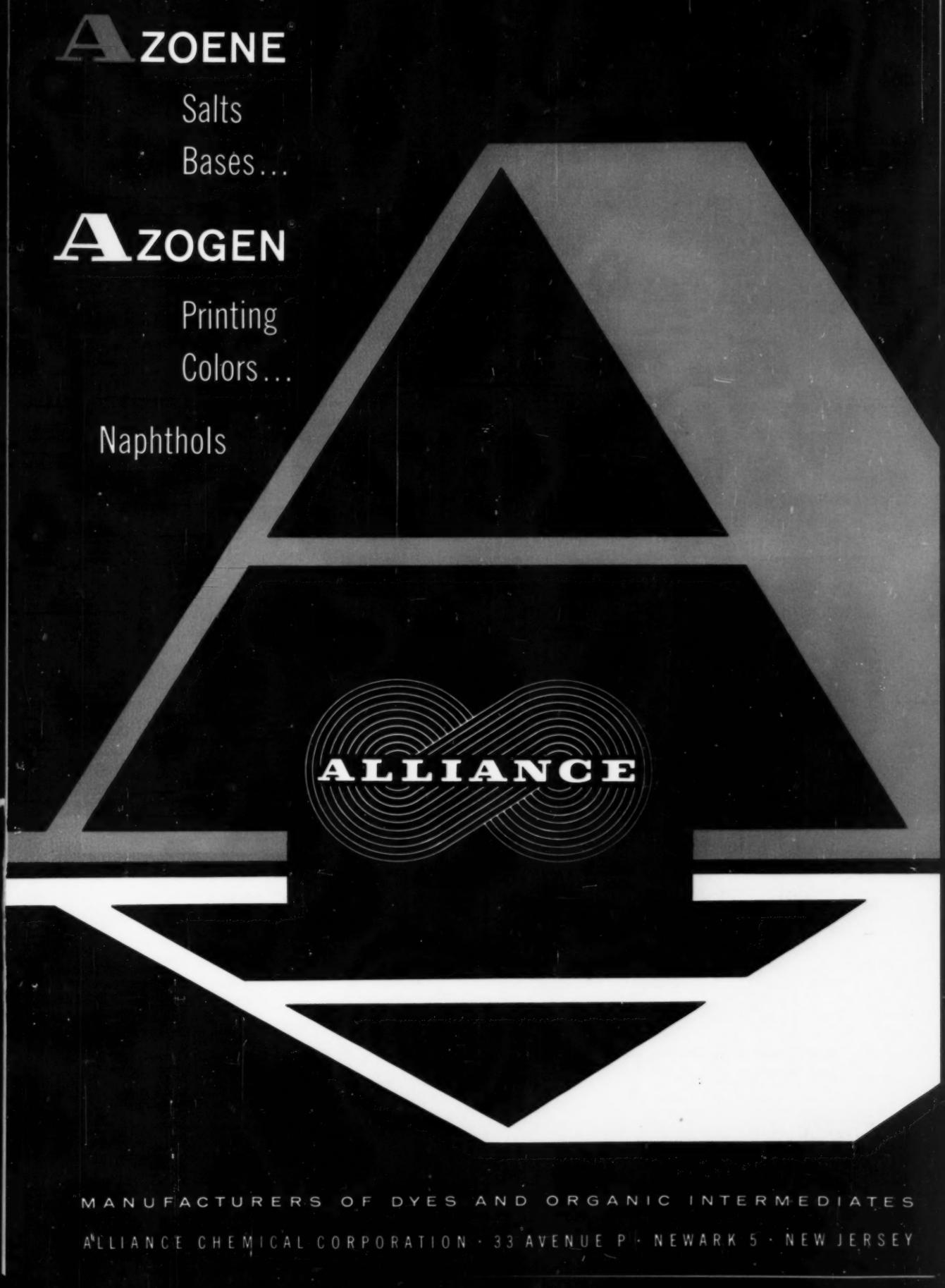
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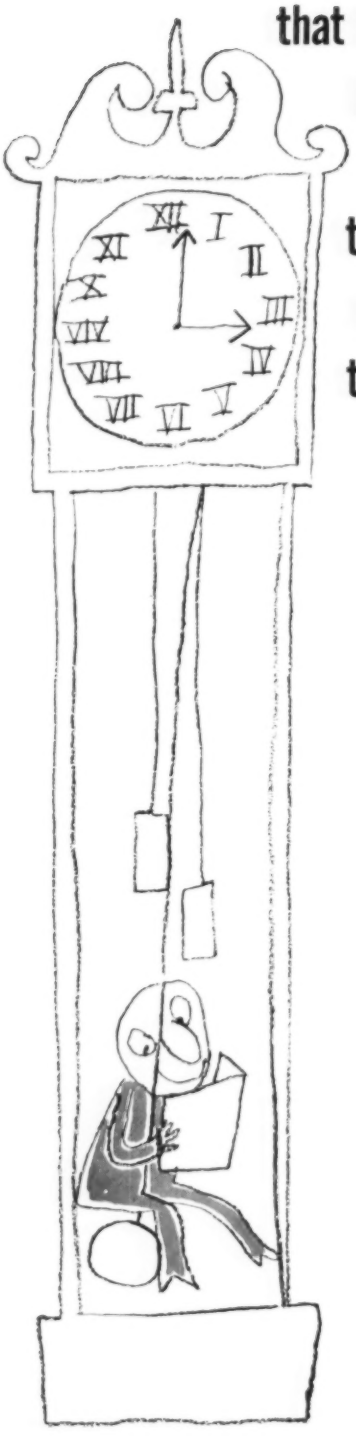
Why is it that the really busiest men always seem to have the most time to read?



Not long ago, we talked with the president of a huge international organization . . . an executive who commands more than fifty companies in 29 countries. He confessed to being an ardent reader of a certain McGraw-Hill magazine.

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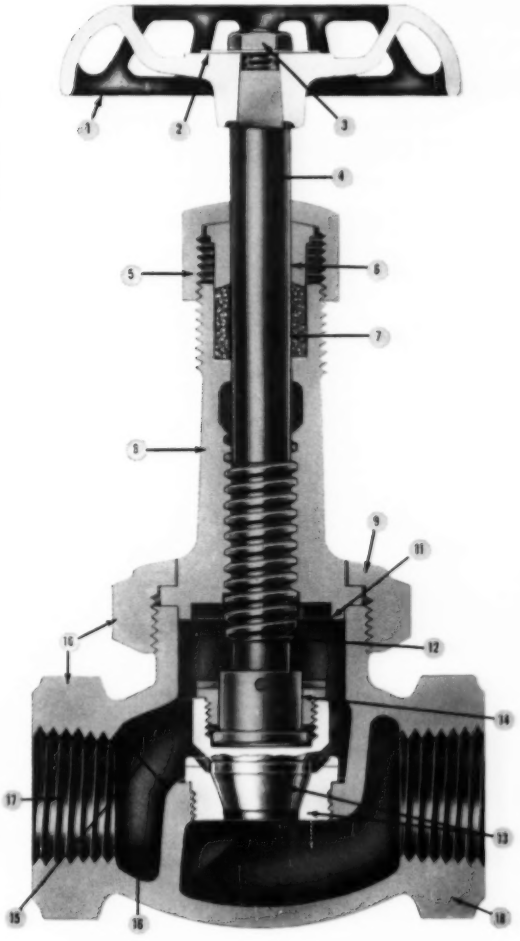

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55% Wool/45% Rayon, 11 oz./yd.	Alkylolamide	25%	Acid, water-softener, alkali	20 minutes
100% Wool, 17 oz./yd. Melton	Alkylolamide plus Fatty Acid Amide	42%	Fabric softener, acid, water softener, alkali	40 minutes
50% Wool/ 30% Orlon/ 20% Nylon, 25 oz./yd.	Alkylolamide	13%	Acid, alkali, water softener	15 minutes
85% Wool/ 15% Nylon, 13.5 oz./yd.	Alkyl Aryl Sulfonate and Fatty Acid Amide	43%	Acid, alkali, water softener	1 hour and 40 minutes
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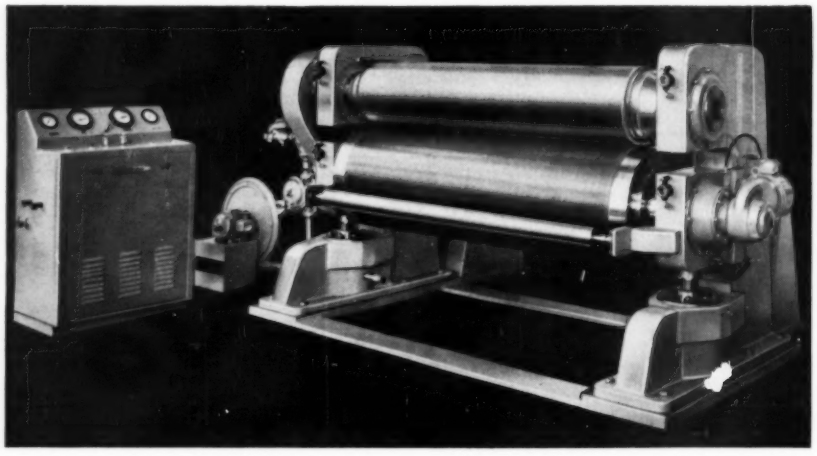
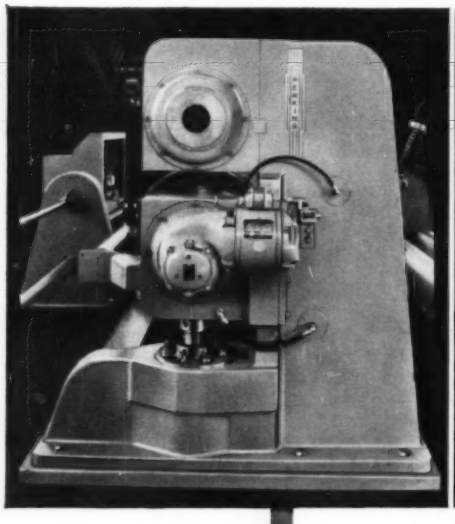
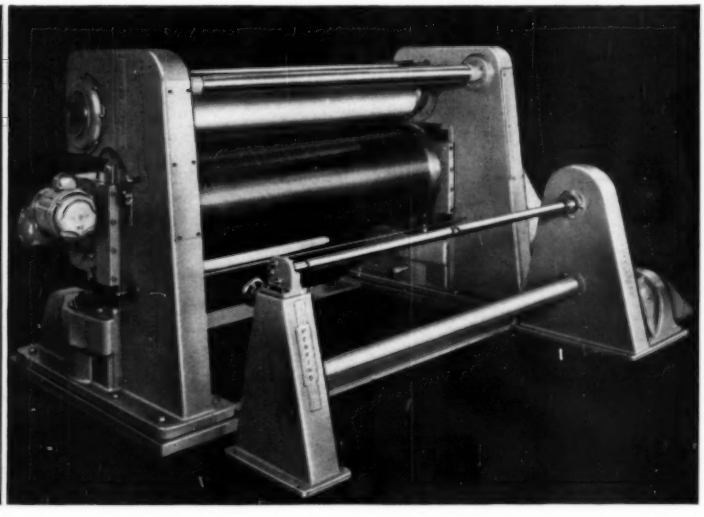


"PERKINS" newly designed, heavy-duty Two-Roll TRICOT SCHREINER CALENDER





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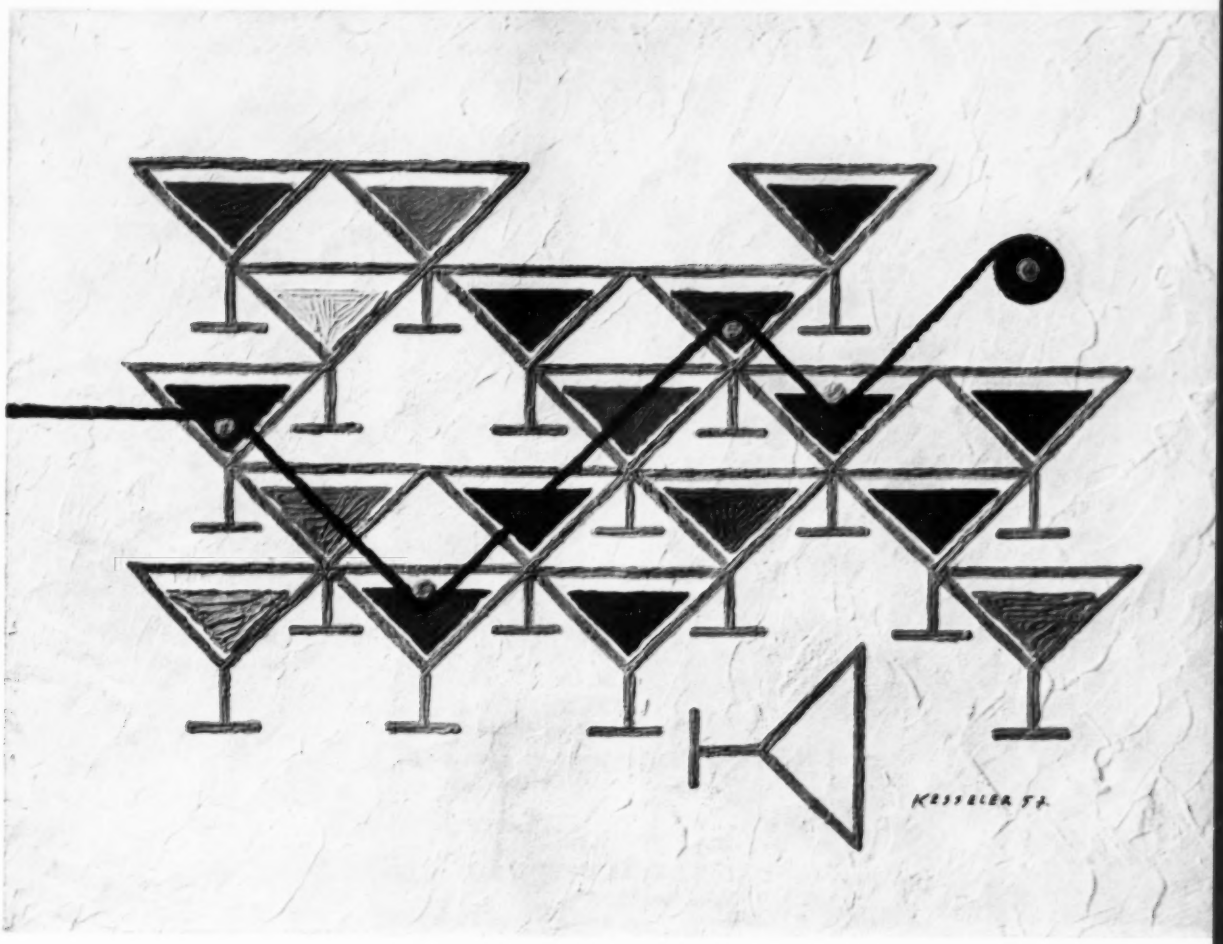

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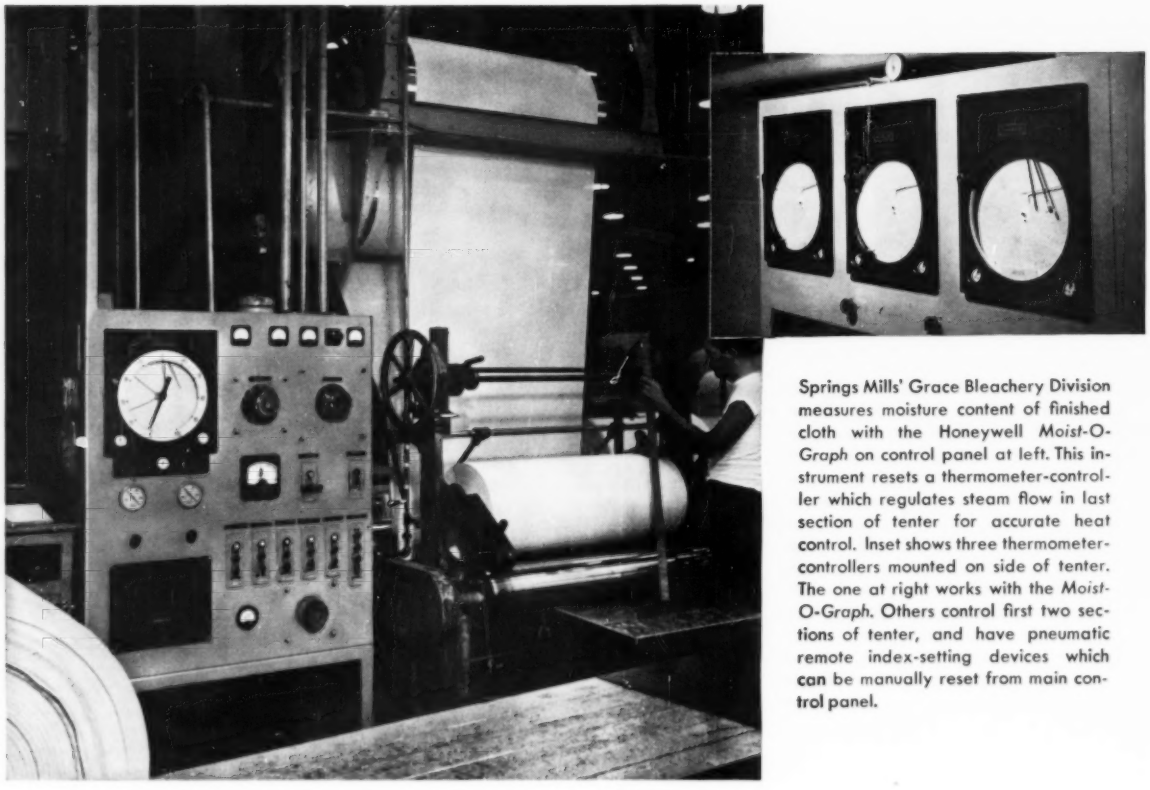

Springs Mills' Grace Bleachery Division measures moisture content of finished cloth with the Honeywell *Moist-O-Graph* on control panel at left. This instrument resets a thermometer-controller which regulates steam flow in last section of tenter for accurate heat control. Inset shows three thermometer-controllers mounted on side of tenter. The one at right works with the *Moist-O-Graph*. Others control first two sections of tenter, and have pneumatic remote index-setting devices which can be manually reset from main control panel.

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Tenter temperature controlled by new *Moist-O-Graph* system at Grace Bleachery

RESULTS:

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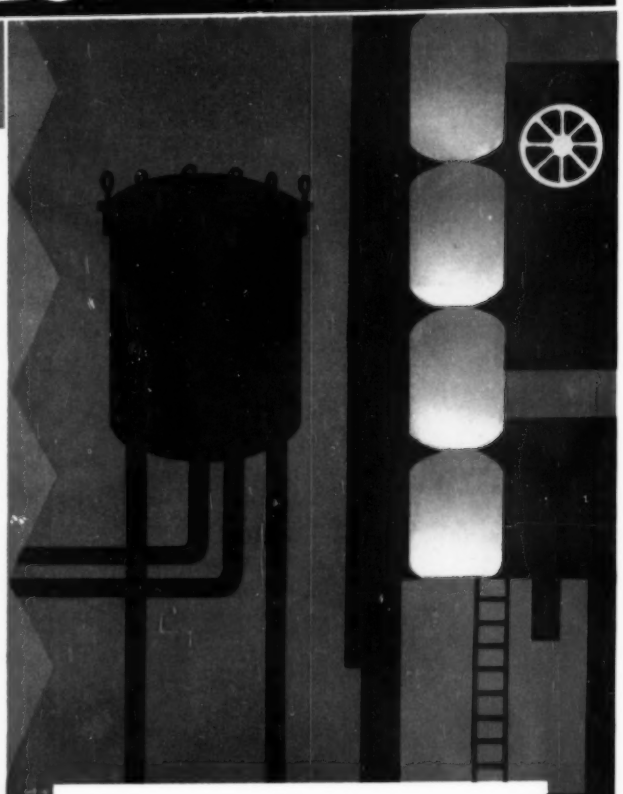

"It's unwise to pay too much, but it's worse to pay too little. When you pay too much, you lose a little money—that is all. When you pay too little, you sometimes lose everything, because the thing you bought was incapable of doing the thing it was bought to do. The common law of business balance prohibits paying a little and getting a lot — it can't be done. If you deal with the lowest bidder, it is well to add something for the risk you run. And if you do that, you will have enough to pay for something better."

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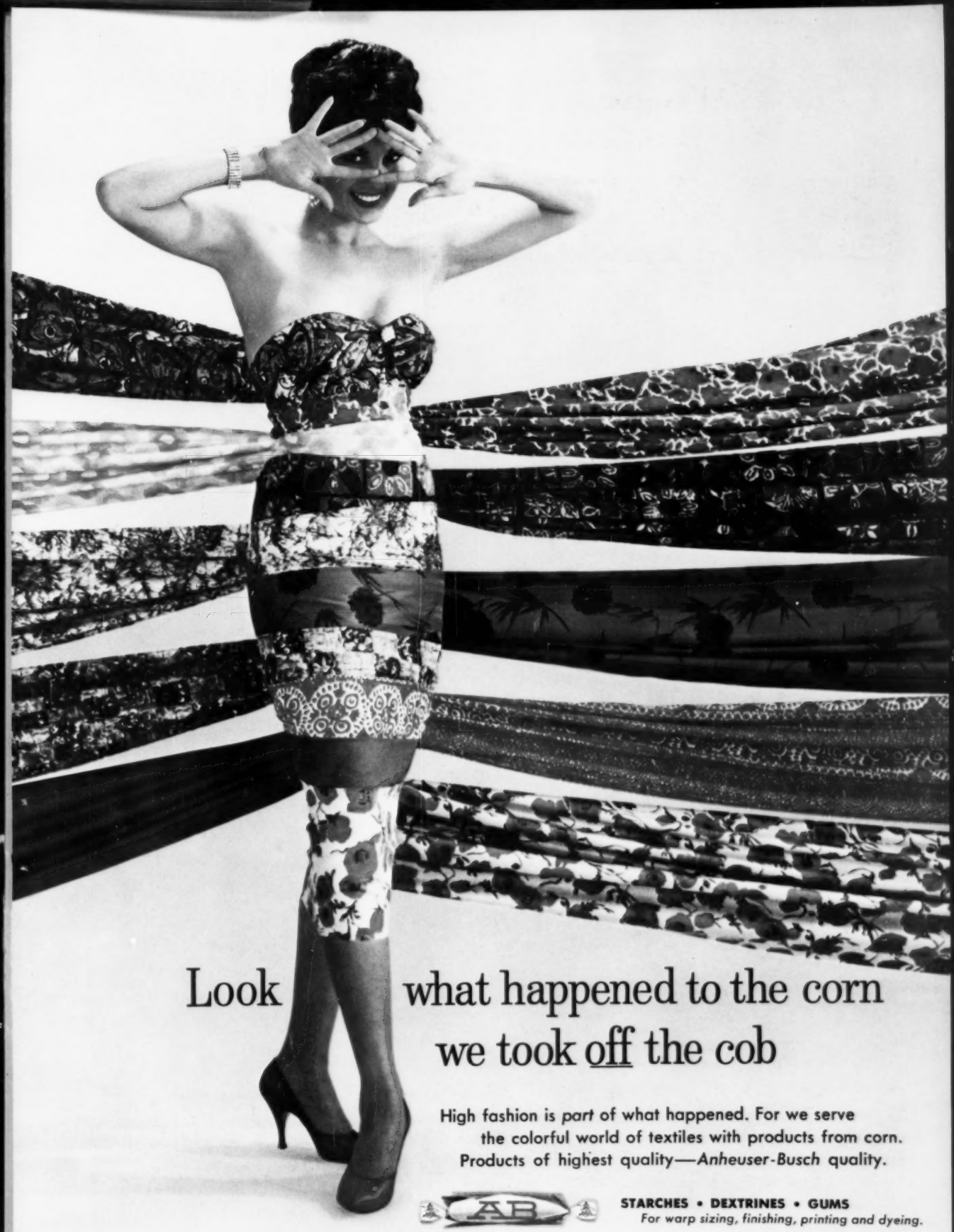

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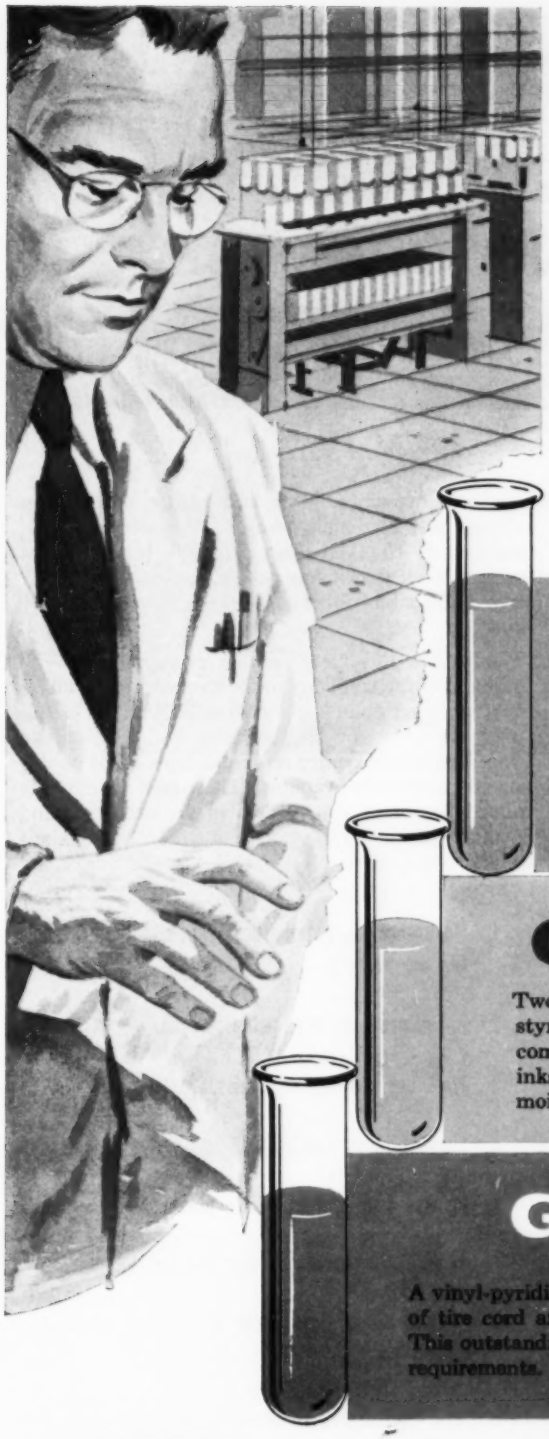

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Two styrene-butadiene latices, containing 60 or 67 per cent styrene. They have excellent hardening properties in latex compounds, and serve well as vehicles in textile printing inks. Gen-Flo also offers above-average water resistance and moisture-vapor transmission characteristics.

GEN-TAC

A vinyl-pyridine latex adopted as the industry standard for treatment of tire cord and fabrics to assure optimum rubber-to-fabric adhesion. This outstanding adhesive quality may well serve other textile treating requirements.

Chemical Division
GENERAL
THE GENERAL TIRE & RUBBER CO.

For complete information
on any of these unique latices, write to

THE GENERAL TIRE & RUBBER COMPANY
Chemical Division • Dept. W-5 • Akron, Ohio, U. S. A.

Creating Progress Through Chemistry

CIRCLE 115 ON READER SERVICE CARD

Franklin Process
YARN DYEING SERVICE

It's the Franklin Process People Who Make It A Living, Breathing Thing!

Many of the important and/or unique advantages that Franklin Process Yarn Dyeing Service offers are inanimate:—

THE FRANKLIN SPRING, which permits hard packages to be compressed less and soft packages to be compressed more, in the dyeing machine, resulting in consistently uniform shades.

EXTRA LARGE DYEING MACHINES. Up to 2500 lbs. in ONE dye batch.

MULTIPLE DYEING MACHINE SIZES. We fit the machine to the poundage required, thus maintaining the proper ratio of dye liquor to yarn and minimizing the chances of offshade work.

LABORATORY CONTROL, resulting in accurate formulas for the dye house, minimum reprocessing and maximum protection of yarn.

GEOGRAPHICAL CONVENIENCE. Four processing plants in major textile areas, plus 2 additional sales offices.

Franklin Process
COMPANY
A DIVISION OF
INDIAN HEAD MILLS, INC.

Dyers of cotton (carded, combed, mercerized) • Orlon* (yarn and tow) • *Acrilan*®** • Dacron† Textralized® • Helanca • Spun Nylon • Spun Rayon • Blends Wool & Worsted Yarn – all yarns on Franklin compressible spring exclusively.

PHILADELPHIA • GREENVILLE
CHATTANOOGA • FINGERVILLE, S. C.
New York Office–111 West 40th Street
Providence Office–611 Turks Head Bldg.

*Trademark for Dupont's acrylic fibre.
†Trademark for Dupont's polyester fibre.
**Acrylic Fibre by Chemstrand.

183-9

However, machines, brick and mortar are only as valuable as the animate beings — the people — who utilize them. Franklin Process is both fortunate and foresighted in that it has people qualified and eager to make Franklin Process Service a living, breathing thing.

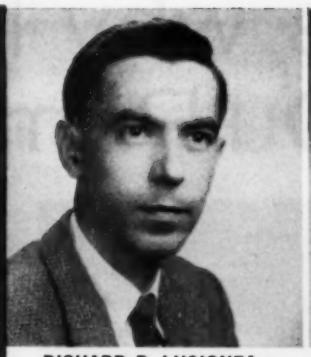
"People," in this case, include everyone from the president of the company to the shipping clerk. However, since we cannot do justice to them all in this space, we show and identify here only the Franklin Process sales and service representatives—the people you are most likely to contact. These men are not only trained to accept your orders in an intelligent and accurate manner, but are also qualified and anxious to help you in many other ways:—

1. **Make sure you get the best yarn and the best color for the purpose.**
2. **Recommend the best putup for you.**
3. **Work out contract schedules.**
4. **Suggest other special services.**
5. **Discuss your synthetic fibre problems.**
6. **Explain billing methods and weights.**
7. **Suggest most economical & efficient methods of dyeing the yarn.**

Select one of our representatives in your area. Ask him to call and explain our many services in detail. Also ask him for a copy of our booklet, "What You Should Know — When Ordering Yarn Dyeing or Colored Yarns." You'll find it helpful.

Franklin Process

SERVICE REPRESENTATIVES



RICHARD B. LUSIGNEA,
Director of Sales
Philadelphia office

I. WILLARD GARDNER,
Mgr. Providence office
covering New England

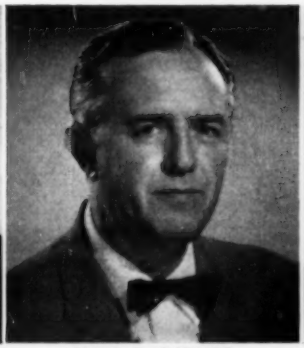
ROBERT S. ALLEN,
Providence office
covering New England
and New York City

S. WARREN CABLE,
Mgr. N. Y. OFFICE

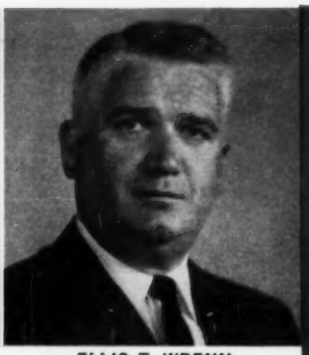
ARNOLD G. DANA,
New York office

LEONARD GRINDROD, Jr.,
Philadelphia office
covering Southern Pa., Del.,
Md., and Northern Virginia

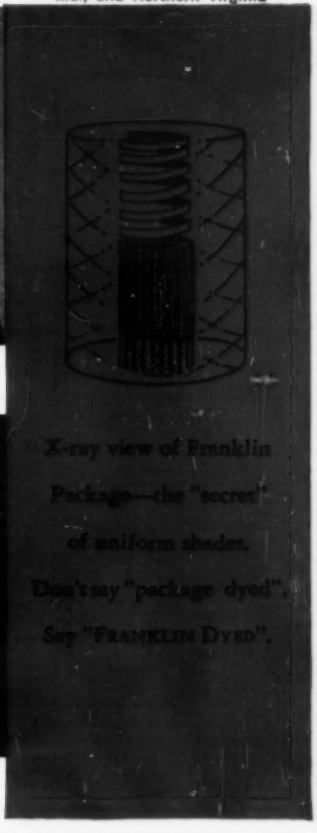
BYRON H. DRUMMOND,
Philadelphia office
covering Northern Pa.,
N. J. and N. Y. State



JAMES R. GARNER,
Greenville office
covering S. C., N. C.



ELLIS T. WRENN,
Greenville office
covering N. C., Southern
Virginia



RAYMOND C. McCARTHY,
Chattanooga office
covering Dalton, Ga. —
Midwest and Southwest

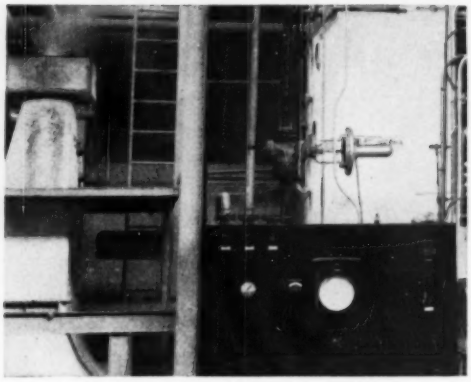
EDWARD A. INGLE,
Chattanooga office
covering Midwest

EDWARD M. CONNELL,
Chattanooga office
covering Midwest

Here's why leading mills Du Pont Solo-Matic

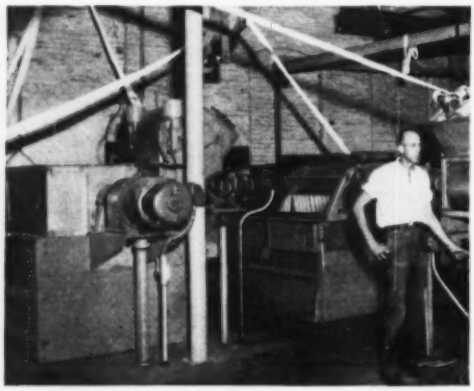
"We wanted the most advanced bleaching process—one simple to operate and capable of top-quality bleaching. Yet capital investment and operating costs had to be low. That's why we chose Du Pont's Solo-Matic Process."

Cone Mills, Carlisle, South Carolina



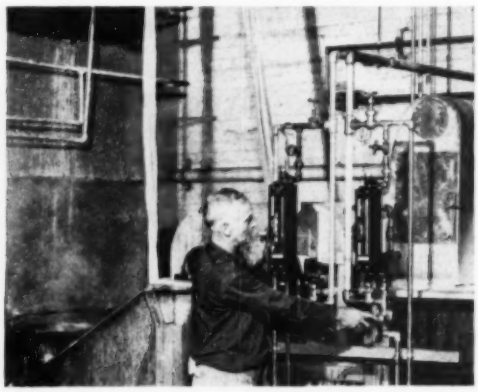
"We changed over from 4-step caustic-chlorine batch bleaching to the Solo-Matic Process . . . saved floor space and cut processing time. Bleaching quality improved—and with it uniformity in dyeing and finishing."

Old Fort Finishing Co., Old Fort, North Carolina



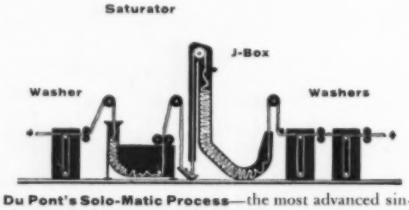
"We replaced our outdated caustic-chlorine batch process with the Solo-Matic Process . . . increased production 20%, cut bleaching costs by the same amount—all with substantial increase in bleaching quality."

Werthan Bag Corp., Nashville, Tennessee



"Located in a busy Chicago industrial area, we were faced with a serious lack of space. A Du Pont Representative showed us how the Solo-Matic Process could help. It has cut time and production costs 27% for us—saved 75% in floor space."

Joanna Western Mills, Chicago, Illinois



Du Pont's Solo-Matic Process—the most advanced single-stage hydrogen peroxide bleaching process available.

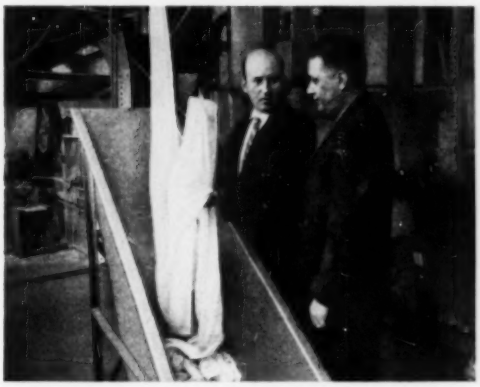
Don't confuse the Solo-Matic with any other process!

Other processes may *sound* similar, but there is *only one* Solo-Matic Bleaching Process, and it was developed by Du Pont. It is essentially a chemical technique that can easily be adapted to any existing or new continuous peroxide bleaching installation. The Du Pont Solo-Matic Process is helping more than twenty-five well-known mills improve bleaching quality, cut costs.

are sold on the exclusive Bleaching Process...

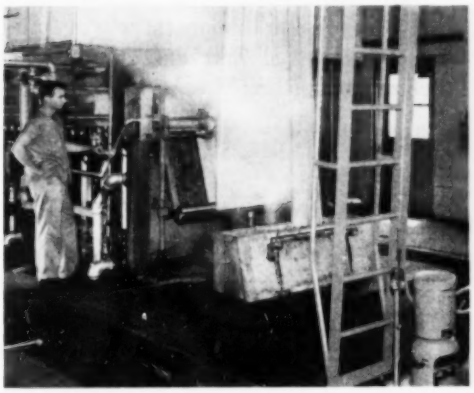
"Technical service from Du Pont helped us convert to the Solo-Matic Process using existing equipment. We've increased production 100% . . . cut labor costs 40% and didn't lose any production during changeover."

Dale Brook Finishing Co., Inc., Hohokus, New Jersey



"Our production doubled, and bleaching costs decreased by 25% with the Solo-Matic Process. There's been no increase in labor or utilities—no additional investment in capital equipment. Quality has been maintained."

Harodite Finishing Co., N. Dighton, Mass.



"A Du Pont Technical Representative showed us how the Solo-Matic Process could do the job of a 2-stage installation, and do it at lower bleaching cost. We're glad we followed his advice—it saved us about $150,000 in capital investment."

Prominent Midwestern Mill

Would you like to *double* production using your present floor space . . . or maintain the same production in *half* that space in your plant? The Solo-Matic Process makes it possible . . . and can improve brightness, fullness and uniformity of your product at the same time.

You, too, can profit with the Solo-Matic or one of Du Pont's other bleaching processes. But whether or not you use any one of these, you can count on the advice and help of Du Pont Technical Representatives. They'll work with you on bleaching problems . . . help you trim costs, improve quality. If you wish, they'll conduct a confidential bleachery survey of your entire mill that can show you where and how to save money. No obligation, of course.

Whatever bleaching process you use, you can depend on Du Pont "Albone" hydrogen peroxide for uniformity and high bleaching efficiency. "Albone" has been used by leading bleacheries for many years . . . is available from convenient shipping points. Du Pont bleaching processes, technical services and "Albone"—a hard-working "team" to keep your bleaching costs low. Take advantage of them!

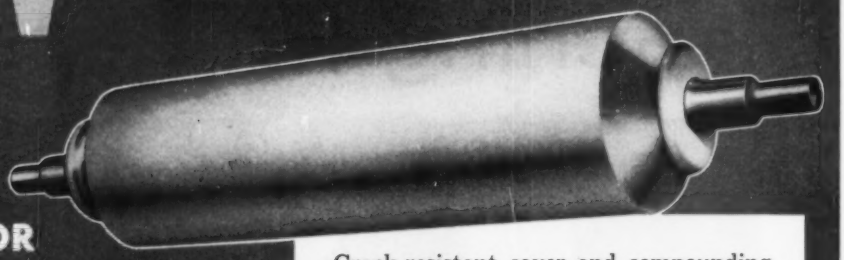
E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Delaware.

DU PONT
REG. U. S. PAT. OFF.

ALBONE® hydrogen peroxide—for Solo-Matic and other modern bleaching processes

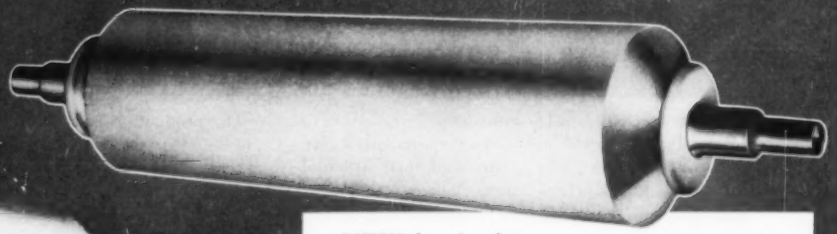
BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

NOW TWO NEW MANHATTAN TEXTILE ROLLS



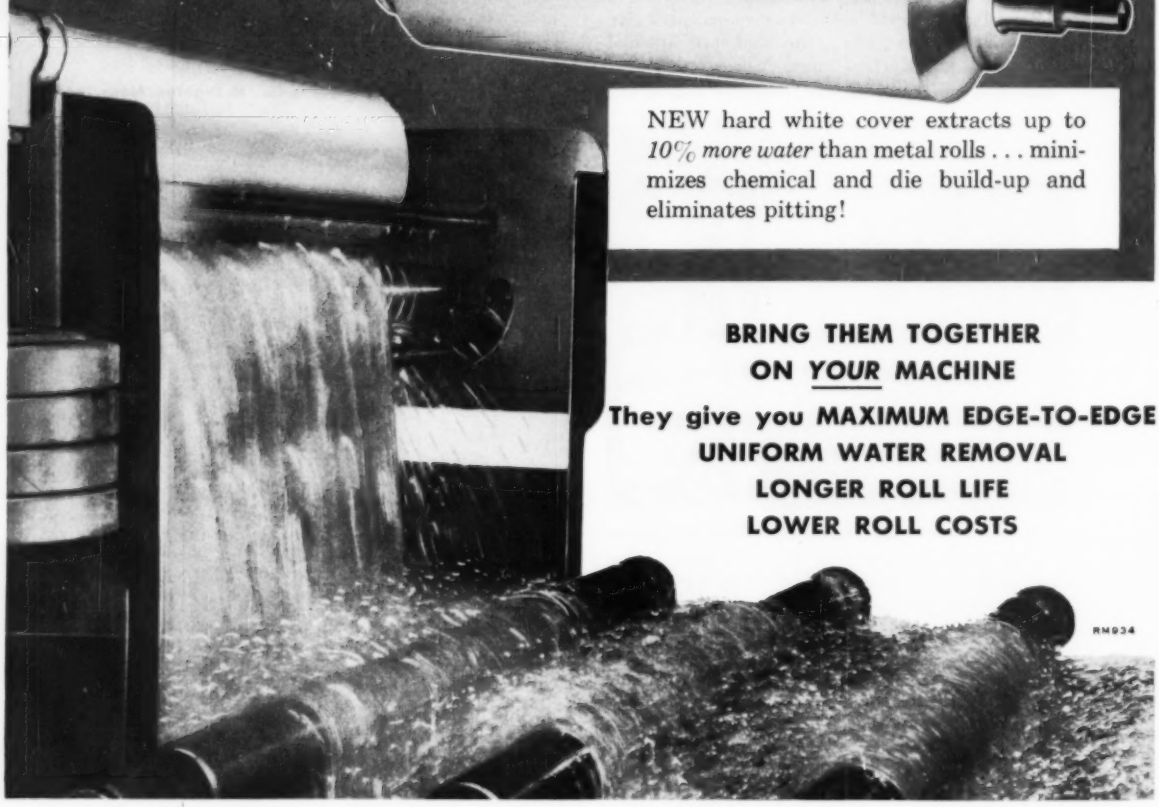
TEXTRACTOR ROLL

Crack-resistant cover and compounding methods extract *more* water . . . reduce crush on mangle roll!



TEXROC ROLL

NEW hard white cover extracts up to *10% more water* than metal rolls . . . minimizes chemical and die build-up and eliminates pitting!



BRING THEM TOGETHER ON *YOUR* MACHINE

They give you MAXIMUM EDGE-TO-EDGE UNIFORM WATER REMOVAL LONGER ROLL LIFE LOWER ROLL COSTS

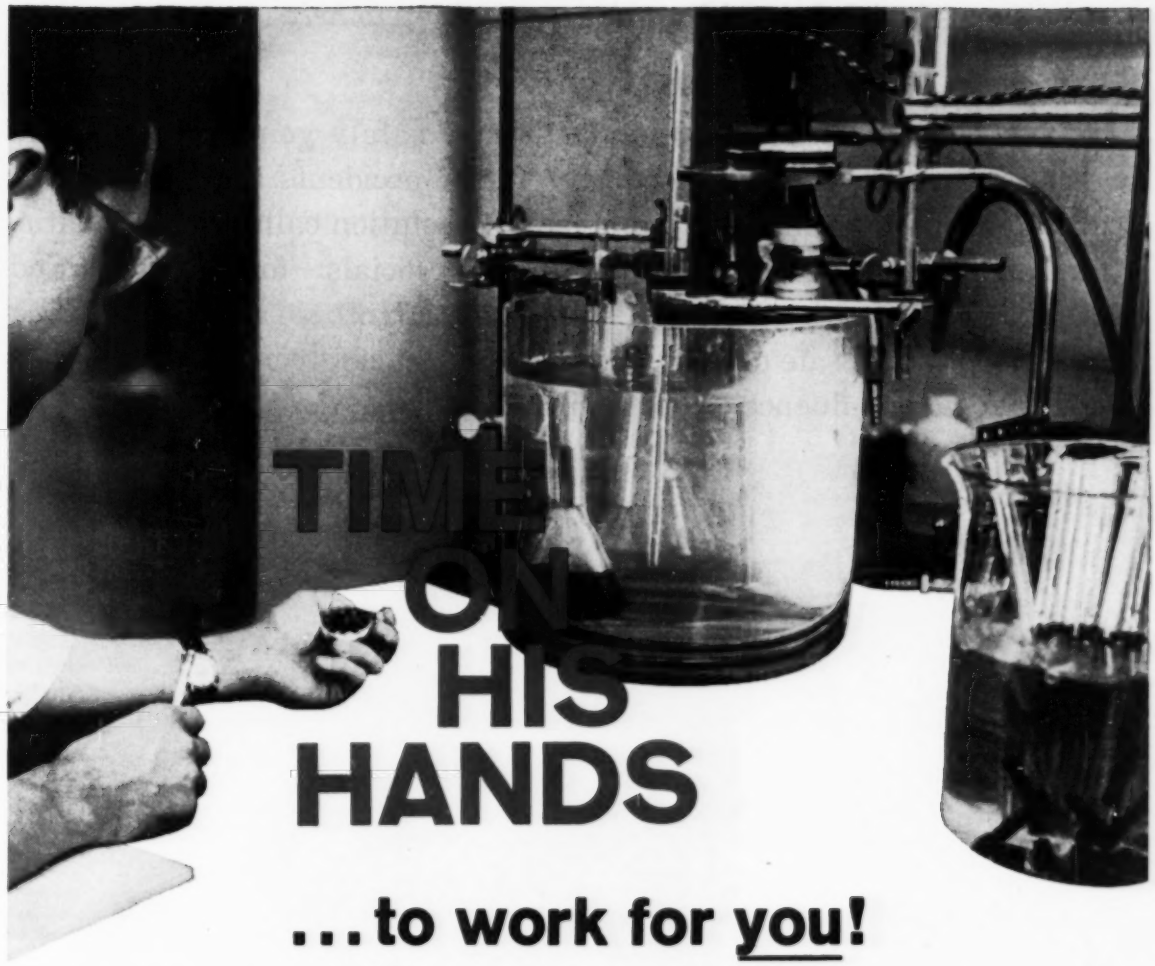
ROLL COVERING PLANTS AT PASSAIC, N. J. • NEENAH, WIS. • N. CHARLESTON, S. C.

BELTS • HOSE • ROLL COVERINGS • TANK LININGS • INDUSTRIAL RUBBER SPECIALTIES

MANHATTAN RUBBER DIVISION — PASSAIC, NEW JERSEY

RAYBESTOS-MANHATTAN, INC.

Other R/M products: Abrasive and Diamond Wheels • Brake Blocks and Linings • Clutch Facings • Asbestos Textiles • Mechanical Packings • Engineered Plastics • Sintered Metal Products • Industrial Adhesives • Laundry Pads and Covers • Bowling Balls



TIME ON HIS HANDS

...to work for you!

This laboratory specialist in the Textile Section of SOLVAY Technical Service, working with an industry-experienced field staff, stands ready to give individual help to textile men like yourself.

For example, the SOLVAY Activated Hydrogen Peroxide Bleaching Process was developed by Technical Service to meet an industry need for an improved cotton bleaching method. With it, you can save up to *50%* in bleaching chemical costs, and can equal or *surpass* your present whiteness!

For data on this process or technical aid in applying any SOLVAY® product listed here, mail the coupon.

PHOTO: This SOLVAY technician is measuring fluidities of a customer's cotton samples.

SOLVAY Chemicals for the Textile Industry

Caustic Soda · Chlorine · Hydrogen Peroxide · Sodium Nitrite
Mutual® Chromium Chemicals · Potassium Carbonate · Soda Ash

Allied Chemical

SOLVAY PROCESS DIVISION
61 Broadway, New York 6, N.Y.

SOLVAY branch offices and dealers are located in major centers from coast to coast.

SOLVAY PROCESS DIVISION
ALLIED CHEMICAL CORPORATION
61 Broadway, New York 6, N. Y.

DW-119

Please send without cost:

- ☐ Brochure on SOLVAY Activated Hydrogen Peroxide Process
- ☐ Call to discuss technical problem outlined in attached letter.

Name_____

Position_____

Company_____

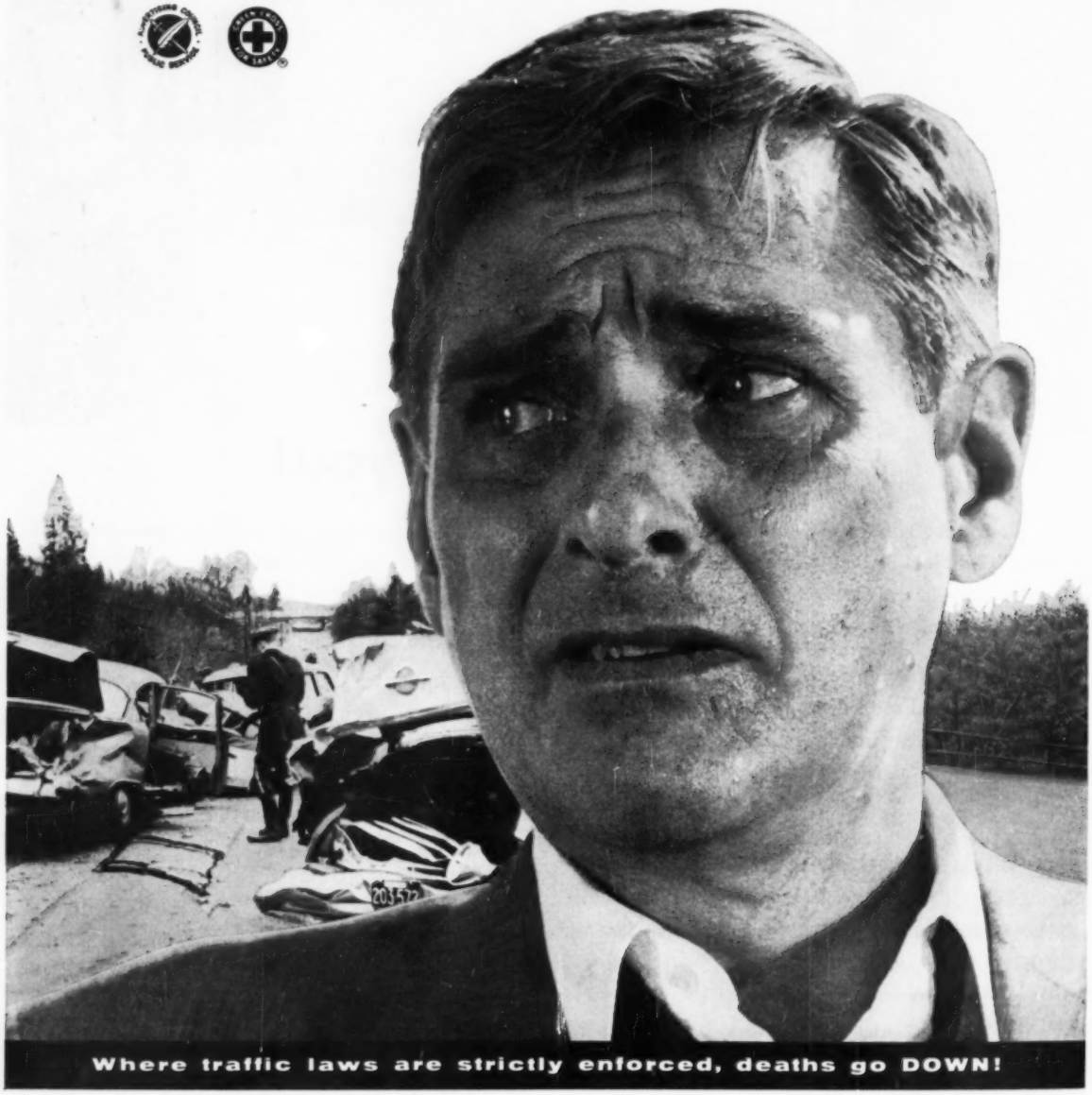
Phone_____

Address_____

City_____ Zone____ State_____

"I wish I could have done something to help . . .

You can do something about traffic accidents! Drive safely yourself—obey the law. Sure. But you can do a lot *more!* Traffic accidents affect *everybody.* Reducing them is a community problem. Its solution calls for systematic, organized effort and cooperation with public officials—for teamwork and leadership. Here is where *you* can help. Join with others who are working actively to promote safe driving and secure strict enforcement of all traffic laws. Make your influence count. *Support your local Safety Council!*



Where traffic laws are strictly enforced, deaths go DOWN!

Published in an effort to save lives, in cooperation with the National Safety Council and The Advertising Council.

BRIEFS

on an engineering and handling guide for caustic soda... caustic soda economics... chlorine demand and supply ...flexible buying possibilities for carbonate of potash

Fact-packed guidebook on CAUSTIC SODA

Here are 40 pages of facts to help you save money on your caustic soda operation.

They tell how to store liquid caustic soda safely and with a minimum of handling problems.

Detailed diagrams and pictures show the best recommended methods to use. Clear instructions give tested ways to unload, dilute, pipe, and store.

Nearly 20 graphs and tables describe the physical behavior of liquid caustic soda under a wide range of working conditions.

NIALK® K_2CO_3 is almost custom made

You have seven forms to choose from

Hydrate, Regular 83.5-84%

Calcined, Regular 99.2-99.6%

Calcined, Regular Powder—fine, medium, coarse

Powder 91-94%

Liquid 47-52%

Therefore, you can gear your buying to your process or product needs.

You can select from six kinds of containers. Hydrate and calcined come in wooden barrels, paper bags, and fiber kegs. 99% powder comes in barrels, fiber kegs, and paper bags, while 91-94% powder is in barrels and bags. You can get liquid in steel drums, tank wagons, and tank cars.

Thus, you can fit your containers into your inventory, warehousing, or processing requirements.

The advantages of this wide choice are obvious. Another is getting a carbonate of potash low in iron and chlorate impurities.

For technical data on the form you need, check the coupon.

Like a genie... CHLORINE HAS MANY MAGICS

Chlorine's great usefulness to man has created a pushing demand for this chemical in a large number of industries.

Its uses grow and grow.

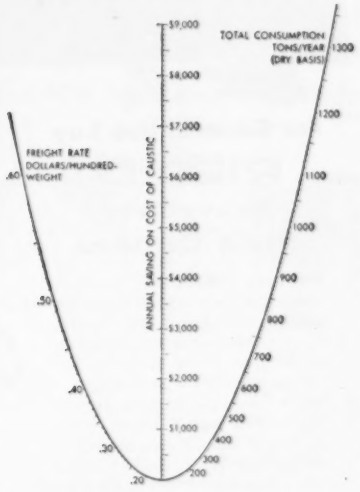
But so, happily, does the production of chlorine. Three Hooker plants—in Niagara Falls, Tacoma, and Montague, Michigan—and the Hooker Type "S" electrolytic cells help meet the country's big demand.

You do not have to wait for delivery on Hooker chlorine. Order a ton container or a tank car—delivery is dependable and fast. And you get a high-quality product in carefully maintained containers.

For more information, check the coupon.

50% caustic soda...or 73% Which is the better buy?

A fast way to find out which buy is better for *you* is to use the nomograph below.



Draw a straight line from your freight rate to your yearly orders in tons. Then read the figure where this line crosses the line of annual savings. This is your saving on 73% before you take out the cost of using the equipment for diluting to 50% while unloading, or of nickel-clad tanks for storing 73%.

To get cost data for this equipment, call in your Hooker man. He will be glad to help you figure it.

For more information on the chemicals mentioned, check here:

- ☐ Caustic Soda Engineering and Handling Guide
- ☐ Nialk Carbonate of Potash and Caustic Potash
- ☐ Hooker Chlorine Manual
- ☐ Caustic Soda Data Sheet
- ☐ Carbonate of Potash Data Sheet

Clip and mail with your name, title and company address. Use business letterhead when requesting samples.

HOOKER CHEMICAL CORPORATION
1711 FORTY-SEVENTH STREET, NIAGARA FALLS, N. Y.

Sales Offices: Chicago Detroit Los Angeles New York Niagara Falls Philadelphia Tacoma Worcester, Mass.
In Canada: Hooker Chemicals Limited, North Vancouver, B.C.

HOOKER CHEMICALS PLASTICS

For General Use buy

RIDGID

Heavy-Duty

Pipe Cutters

Factory tested for perfect tracking, here's your best cutter buy for hand use. Extra-long shank protects threads, gives fast, easy adjustment. Large handle for sure grip . . . more leverage. Strong, special malleable frame won't bend or warp. You'll also need the RIDGID Wide-Roll Cutter, that tracks perfectly at high power-drive speeds, and the RIDGID 4-Wheel Cutters, that give quick, clean cuts in tight places with only quarter turns.

Five Sizes for ⅛" to 6"

For Tubing and Thin-Wall Conduit buy

RIDGID

Tubing Cutters

Five Sizes for ⅛" to 4"

Exclusive fold-in reamer on Nos. 10, 15 and 20 protects hands and pockets . . . reams full cutter capacity. Single thin-blade wheel gives quick, clean cuts. Rollers smooth tubing ready for soldering.

Only special No. 315 is 3-wheel cutter for fast cuts in hard-to-get-at places.

There's a RIDGID Cutter to save you time on every job. Call your Supply House today!

RIDGID

The Ridge Tool Company • Elyria, Ohio, U.S.A.

For resin finishing and booster heating

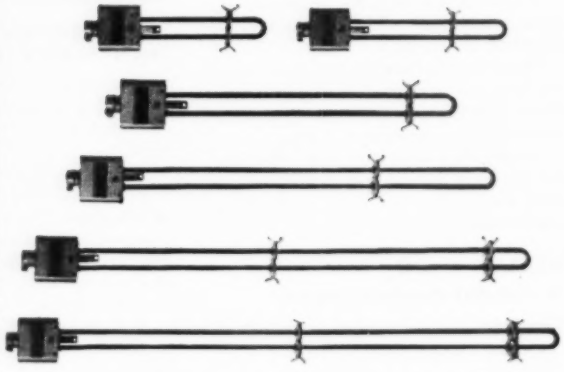
see the difference . . .

save the difference with

CHROMALOX

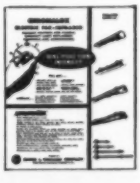
Adjustable Far-Infrared Heaters

This Chromalox URAD heater lets you match your heat source to your work area. In one basic housing you can install up to 27 different heated lengths; each can be varied with the area of the work.



You can do-it-yourself too. Chromalox Far-Infrared elements are designed with a sliding fit that lets you interchange elements anywhere along the housing length. No more wasted heat when you go from one work size to another. This versatility means real dollars and cents saving.

Chromalox Electric Far-Infrared radiation can be simply and precisely controlled over largest work areas, and is absorbed uniformly by practically all colors—even optically transparent materials.



FREE—Get more information about Chromalox Electric Far-Infrared Heat. Ask your Chromalox Representative, or write today for your copy of new Catalog G 1004.

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CHROMALOX

Electric Heat

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HARSHAW UVERSOFT "D"

imparts soft hand with little reduction in moisture absorbency

● UVERSOFT "D" is a cationic surface active agent which produces a full, soft hand with little, if any, reduction in moisture absorbency of the TREATED material. It can be exhausted from a long bath, and has an excellent retention in an aqueous system. UVERSOFT "D" provides a maximum economy in application and use.

UVERSOFT "D" is an outstanding anti-static agent. It should be considered for situations where the accompanying softening action is not objectionable.

Send for folder containing complete technical information.

THE HARSHAW CHEMICAL COMPANY ● 1945 East 97th St., Cleveland 6, Ohio

Send me TECHNICAL BULLETIN ON UVERSOFT "D"

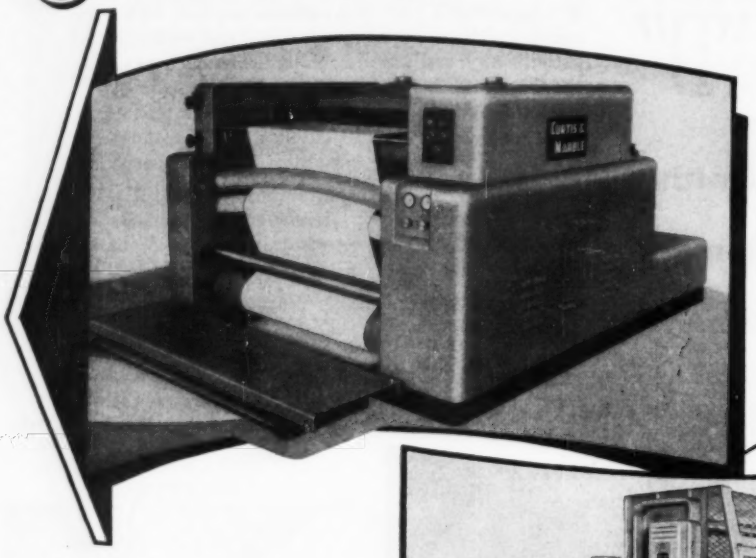
My Name_____

Company Name_____

Street Address_____

City_____ Zone____ State_____

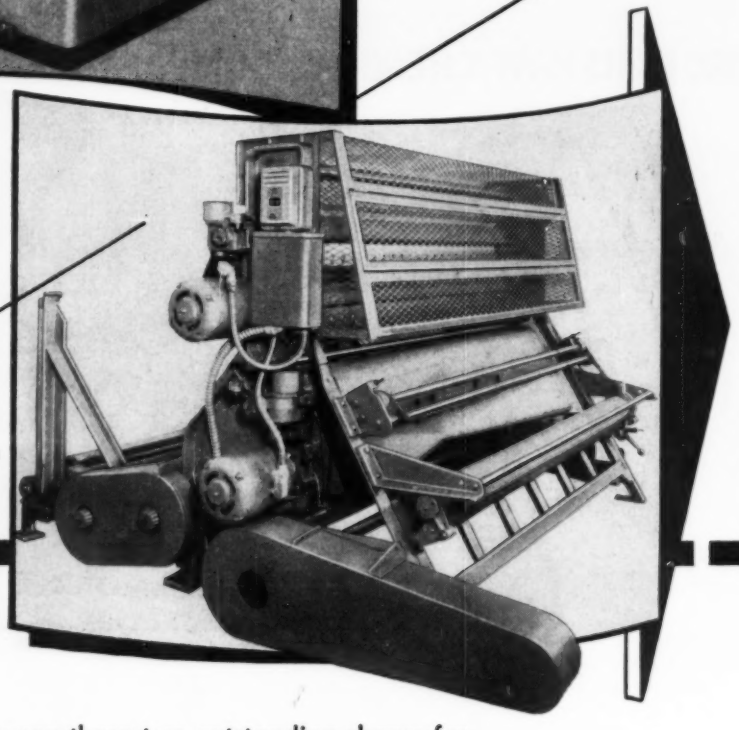
One way - or the other...



there's nothing better made than . . . .

the M-125 Horizontal Shear

or . . . the AV Vertical Shear



Yours is the choice between these two outstanding shears for sheer perfection! Let us help you modernize your Cloth Room for greater efficiency with particular emphasis on better quality. Shears such as these are the basis for your start.

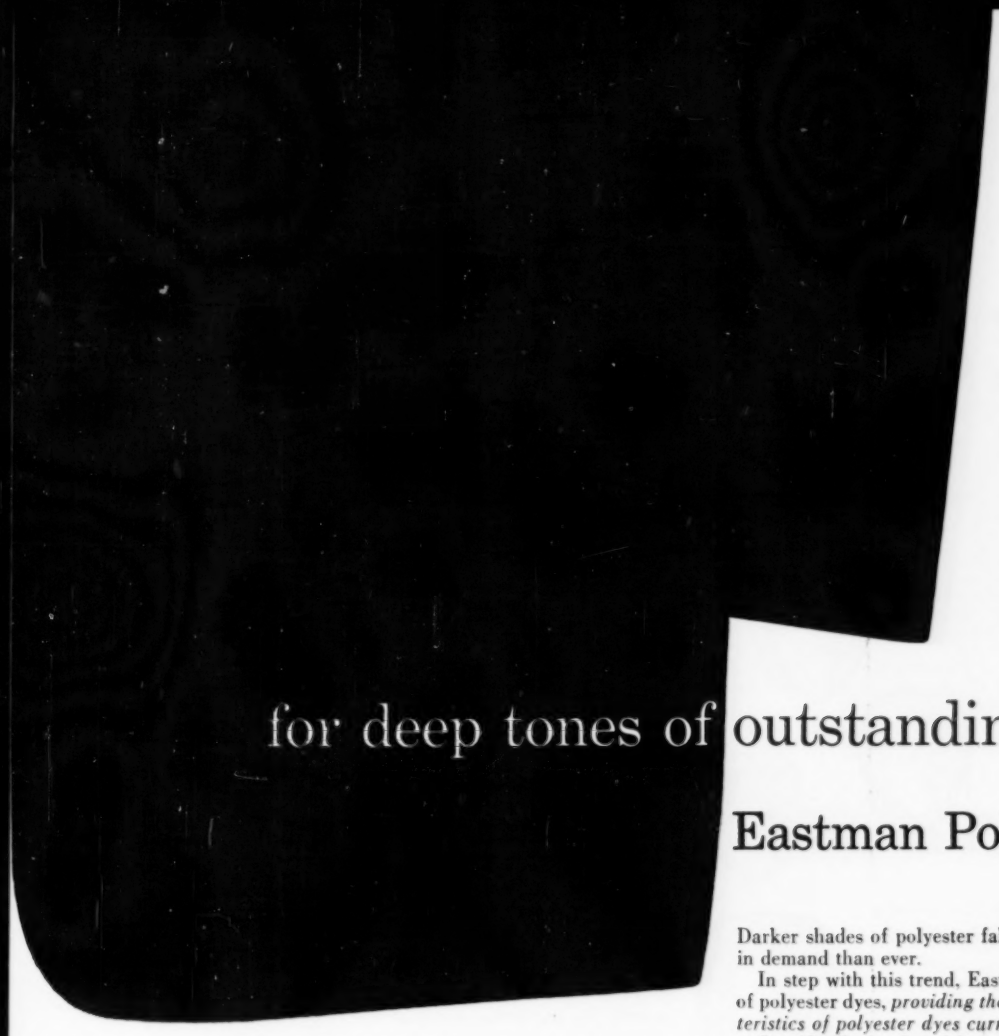
Manufacturers of a complete line of Dry Finishing Machinery

CURTIS & MARBLE MACHINE CO.

72 CAMBRIDGE STREET • WORCESTER 3 • MASSACHUSETTS

SOUTHERN SALES & SERVICE • LAURENS ROAD • GREENVILLE • SOUTH CAROLINA

ESTABLISHED 1831



*Dark Navy**

for deep tones of outstanding fastness

Eastman Polyester Dyes

Darker shades of polyester fabrics and their blends are more in demand than ever.

In step with this trend, Eastman offers an expanding series of polyester dyes, *providing the best all 'round fastness characteristics of polyester dyes currently available.*

Specifically developed for use with polyester fibers, Eastman Polyester Dyes exhibit outstanding fastness to washing, light, sublimation, crocking, perspiration, dry cleaning and wet pressing.

Equally important are their excellent processing characteristics... good build-up, good exhaustion and outstanding leveling properties. Thus, darker shades of navy, brown and grey are economically obtained.

Dyeing with Eastman Polyester Dyes is easily accomplished with carriers or under pressure at elevated temperatures. Fibers can be readily dyed in tow, tops, stock, or fabric forms. Fabrics of polyester filament can be conveniently dyed in jigs. Fabrics woven of spun polyester yarns alone or blended with cotton, viscose or wool can be easily dyed in dye-becks.

Make sure you are taking full advantage of this outstanding line of polyester dyes.

*Try this formula on your next dark navy dye lot.

4% Eastman Polyester Blue 3RL
6% Eastman Polyester Blue BLF
0.6% Eastman Polyester Orange 3RLN
5 g./l. o-phenyl phenol type carrier
Material: Polyester
Bath Ratio: 30:1
Dyed at Boil

Eastman Polyester Yellow RL
Eastman Polyester Yellow W
Eastman Polyester Yellow 5R
Eastman Polyester Orange 3RLN
Eastman Polyester Red B
Eastman Polyester Red 2G
Eastman Polyester Dark Red FL
Eastman Polyester Blue GR
Eastman Polyester Blue GLF
Eastman Polyester Blue BLF
Eastman Polyester Blue 3RL
Eastman Polyester Navy G
Eastman Polyester Black RB

Eastman Polyester Dyes

Eastman Polyester Dyes are sold in the United States by **EASTMAN CHEMICAL PRODUCTS, INC.**, subsidiary of **EASTMAN KODAK COMPANY**, in Kingsport, Tennessee; Lodi, New Jersey; and Greensboro, North Carolina. On the **West Coast** through **WILSON MEYER CO.**, San Francisco, Los Angeles, Portland, Seattle, Salt Lake City. In **Canada** through **CLOUGH DYESTUFF CO., LTD.**, St. Laurent, P.Q.

CIRCLE 127 ON READER SERVICE CARD 127

CLINTON can do it with CORN

Zea Mays

... that which sustains life

The products from corn that are made by Clinton contribute to better living for millions

Zea Mays is derived from the Greek name for grain and the American Indian sound for "that which sustains life."

The Indian used corn as food—and knew very few and simple ways to prepare it. Corn, today, is vital as a food for humans and livestock—but, the products from corn are many and it is impossible to count the ways they contribute to our better living.

There are very few products you buy that do not use a product from corn in some way. Corn sugars and starches are used extensively in food processing. Starches aid in the textile industry, and the laundry industry—the clothes you wear needed corn. Corn makes better papers and packaging boards. Corn is necessary in drugs and medicines—in beverages and bubble gum.

Corn is our business at Clinton. In our modern plant we produce the finest products from corn—under the strictest system of quality control. And, Clinton research is constantly discovering new applications for corn in the quest for better living for everybody.

Clinton serves the TEXTILE industry

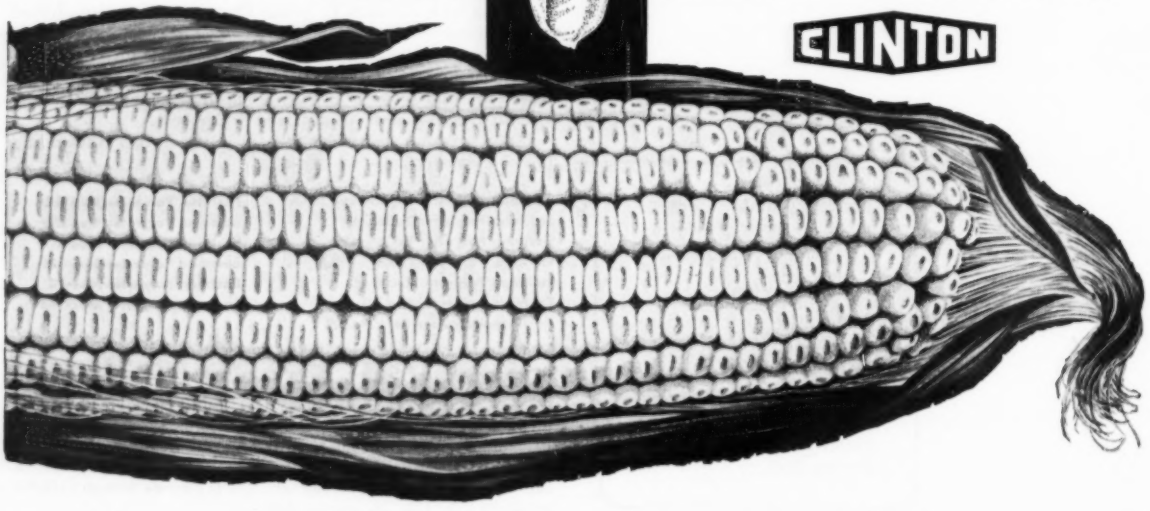
Clinton's uniformly controlled, quality products will meet your textile manufacturing requirements. Consult your Clinton salesman. He will provide product information, arrange for prompt technical service, or assist you in any way possible.

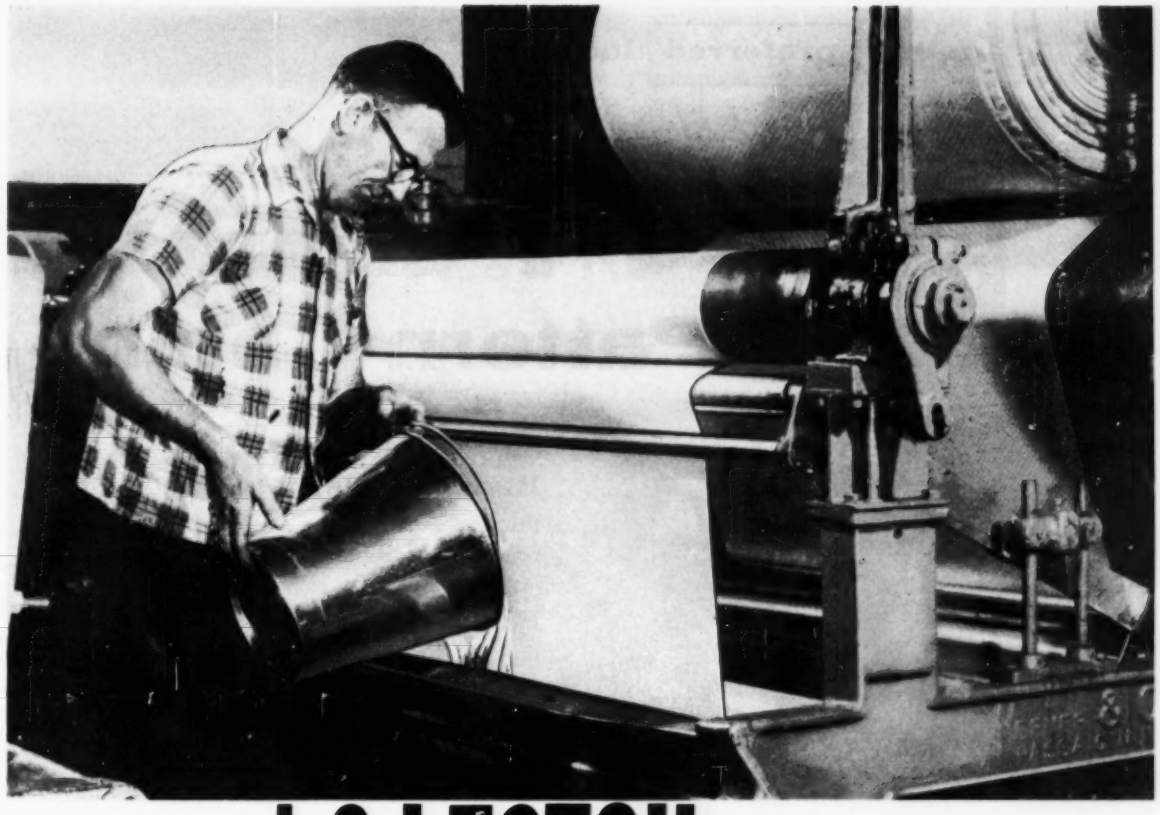
CLINTON CORN PROCESSING COMPANY
CLINTON, IOWA

CORN SYRUPS • DEXTROSE
STARCHES • DEXTRINS • SUGARS • OILS
LACTIC ACID AND OTHER PRODUCTS FROM CORN

If you can do it with CORN
you can do it better with CLINTON

CLINTON





d-2 LESTOIL helps you solve

THE "SECONDS" PROBLEM!

Follow the lead of gray goods foremen, converters, dyers and finishers who every day insure against profitless "seconds" caused by dirty gray goods. Simply add d-2 LESTOIL to your scouring solution and be sure of gray goods that will be spotless and will bleach and dye with complete uniformity.

d-2 LESTOIL completely removes grease, oil, graphite, natural wax, gum, soluble sizing, mill dirt ... all ground-in soils that cause "seconds". *Impurities stay out too* ... because d-2 LESTOIL prevents redepositing.

No new equipment is needed with d-2 LESTOIL and it's perfect for spotting, padding, or scouring of all fabrics. d-2 LESTOIL means easy rinsing ... whiter bleaching ... brighter dyeing ... soft and pliable fabrics. Why don't you try it now!

A big, free sample of d-2 LESTOIL and complete information are yours for the asking.

MAIL THIS COUPON TODAY

LESTOIL, Inc., 1610 Garfield Street
Holyoke, Mass.

Please send me a sample of d-2 LESTOIL and full details.

Name_____ Title_____

Firm_____

Address_____

City_____ State_____

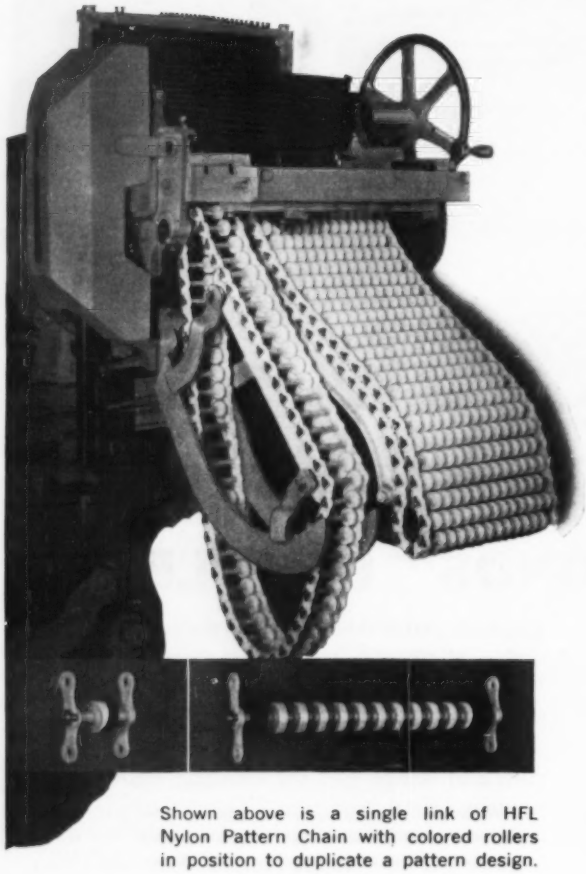
LESTOIL, Inc.

A Subsidiary of Adell Chemical Co., Holyoke, Mass.

another **preferred** loom part

HFL ENGINEERED

NYLON Pattern Chain*



Shown above is a single link of HFL Nylon Pattern Chain with colored rollers in position to duplicate a pattern design.

*PATENT PENDING

Reduces Weight 66%

Friction and wear are minimized on links, risers, and sinkers

Reduces Expense

Substantial savings are realized over cost of metal chain

Increases Efficiency

Permits use of colored, lightweight risers to simplify pattern changing

Consider these additional advantages: dimensional stability of all components is maintained; skips and smashes are eliminated; downtime due to pattern chain failure is eliminated; no lubrication is required. With an HFL Nylon Pattern Chain you can count on improved quality and increased production! Once again, Livermore Leadership has proved itself by presenting another preferred loom part to eliminate one more problem in the weave room.

Write for Nylon Pattern Chain Brochure–3

HFL IMPROVED LOOM PARTS

H. F. LIVERMORE CORPORATION

ESTABLISHED 1887

EXECUTIVE OFFICES & PLANT
BOSTON 34, MASS.

SOUTHERN DIVISION
GREENVILLE, S. C.

Giving 'Em the Bad News

• Every supervisor occasionally has to tell his people bad news. How he handles this unpleasant duty can have an important effect on his relations with his employees.

By **M. A. CROSS,** Director of Industrial Relations, Dan River Mills, Inc.

One of the more-enjoyable moments in the working life of a supervisor occurs when he has the pleasant duty of passing on to his employee an item of good news. Informing an individual employee or a group of workers that pay rates will be increased, that working schedules will be improved, or that air conditioning will be installed in the department is scarcely a chore to be avoided.

But what about the reverse situation? The supervisor doesn't live who hasn't had the duty on occasion of informing his people about an item of bad news. This duty is not easy or pleasant, but it is an obligation every supervisor accepts the moment he moves up to the position that he direct the work of others. And how he handles this duty is a matter of some importance, since it certainly can affect the state of his employee relations.

Here are some suggestions that might be helpful when you meet your obligation of passing on bad news.

1. Recognize when you are dealing with bad news

You're probably thinking that anybody with enough sense to be named a supervisor surely has the sense to know whether news is good or bad. Generally, of course, you are exactly right. If production curtailments require layoffs or a four-day week instead of five, it is pretty clear that this news is unpleasant to the people immediately affected. If an incentive rate has worked loose and requires adjustment, the news that it is to be reduced is pretty sure to be bad news:

But there can be, and often are, other situations when it is not quite as obvious. Let's say it has been the practice in your mill to shut down for a particular holiday and give employees the day off with their families. Also, it is the practice to pay a premium rate if work is needed and performed on this same holiday.

This year it is expected the mill will again be closed for the holiday; but at the last moment, because shipments are behind schedule, it is determined the mill will run. Will this information be good news to employees because it means an extra day's work at premium pay, or will it be bad news because employees will miss a day off they had planned on?

This point makes sense. You want to be sure to recognize bad news when you have to pass it along, and in some circumstances your judgment as to whether it is good or bad will depend upon how well you know individual employees and how they react.

2. Face the facts; you can't avoid them

The British people knew one of their darkest hours in World War II. Hitler's armies had swept across the Low Countries and France and had driven the British army to the sea, where it was rescued only by heroic measures. German divisions were poised to invade the British Isles. Defeat, complete subjugation, the concentration camp were the prospects for the people of Britain.

In this bleak hour, Winston Churchill, brilliant wartime prime minister, did not minimize the dangers or the harsh realities. He told his people the facts, told them how grim the situation was, and called on them for their blood, sweat, and toil. Their response was magnificent.

A lesser man might have done less. He might have minimized the German victory in France, misrepresented the extent of the defeat at Dunkirk, and said that the English Channel was an impregnable barrier to an invasion army.

But a lesser man could not have concealed the true state of affairs. It was desperate and the British people knew it. Churchill wisely told them the worst; and having learned it, the British girded themselves for the long, difficult job ahead.

Most of us will not be faced with the decisions that make history, but the lesson is nevertheless clear. When the news is bad, people will learn of it and may magnify it out of proportion. The sensible course is to give them the facts as clearly and honestly as possible so they can judge realistically the impact it has on them and what they can do about it.

3. Don't sugar-coat the bad news

This point is very close to the preceding one. If the news is bad, treat it as such and don't try to sweeten

CONTINUED ON PAGE 172

MEZZERA

DYEING AND FINISHING MACHINERY

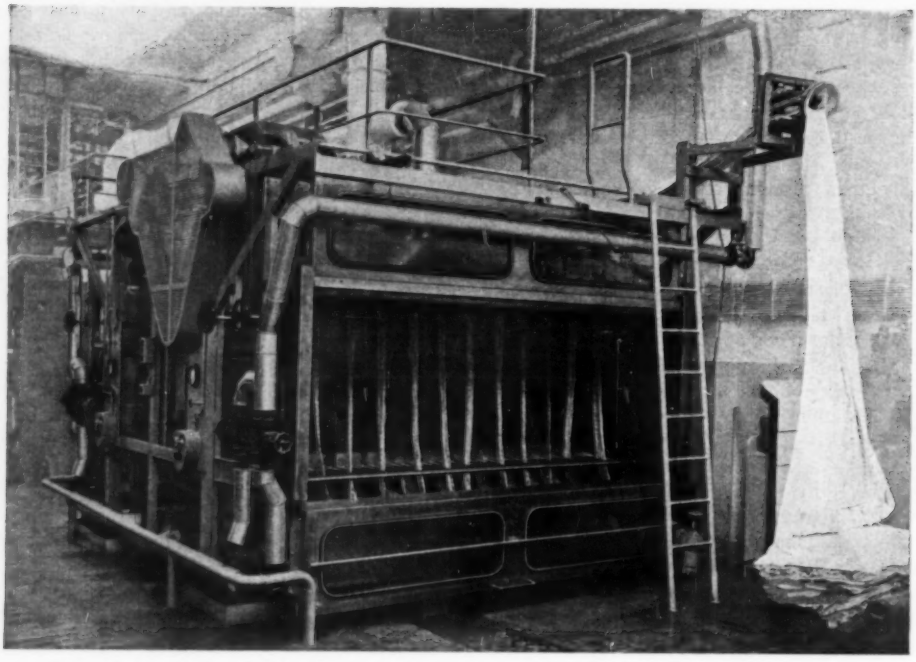
CONTINUOUS MACHINE

WITH VERY EFFICIENT WASHING EFFECT

without any tension

with minimum water consumption

for printed, dyed fabrics, etc.

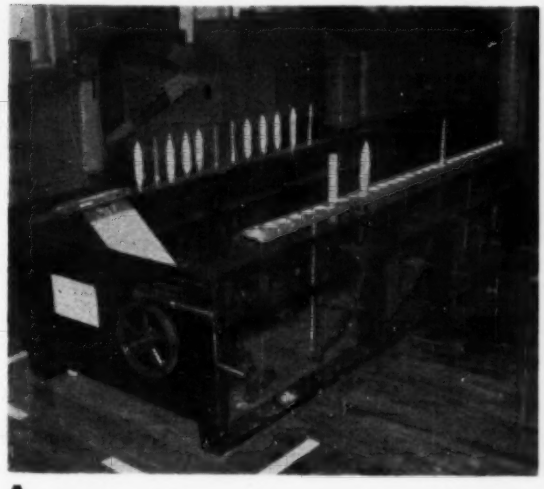


"NIAGARA"

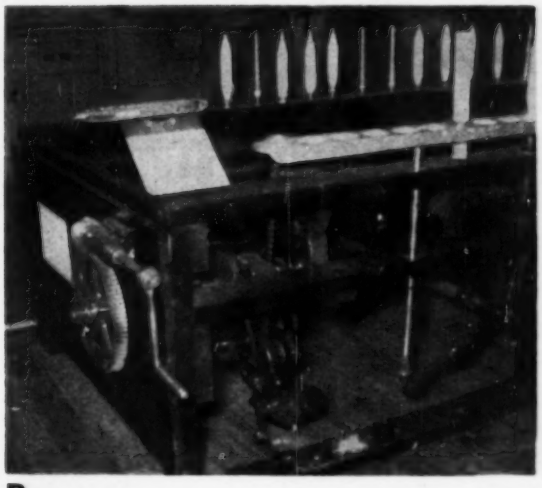
for speeds up to 200 yards

MEZZERA S.p.A MILANO, ITALY Via Frigia, 19

Wooden Spinning Frame Helps Fixers Learn Job



A



B

As an instructor in spinning-frame fixing, I ran into trouble in teaching a large group of men the fixing course in the allotted time of 40 hrs.

The builder, bunch builder, and traverse motion require much attention because of close settings and adjustments. I found it almost impossible to instruct more than two men at a time, because of the position of the builder motion under the frame.

To correct this condition and do a better job of instructing in less time, I built a builder-motion trainer. With this trainer, as many as 20 men can observe every part of the builder, bunch builder, and traverse motion from a standing position.

I also can teach each man how to set and adjust these motions while the rest of the class looks on.

The builder trainer has an 8-ft. wooden frame made from 2x4-in. lumber. Width is 39 ins., which corresponds to our spinning frames, and length corresponds to one ring rail. Each side consists of three 8-ft. lengths of lumber. The top two pieces simulate the base rail of the spinning frame; the bottom piece is used as a runner with legs for support.

The head end is boarded up solid, and the frame is bolted together for strength. Sections can be dismantled for easy transportation if necessary. Complete frame is shown in Photo A.

Holes are spaced in the base rail on one side to accommodate two lifting rods and two bases for "idle spindles." Three scale-beam hangers for three scale beams are used. The middle one is for the bearing-down pedal, latch, and pick rod.

One section of ring rail, mounted on the traverse side of the frame, has two rings for idle spindles and one ring that is used as a gauge. A rule is mounted on the base rail so that it runs up through the gauge ring and can be read by the man at the crank.

The builder, bunch builder, cam, camshaft, bearings, etc., are mounted as in a spinning frame with the camshaft through the head-end board. Cam gear, worm gear, and shaft are mounted on the head board as shown in Photo B. Worm-gear shaft extends horizontally to a hand crank that operates the mechanism.

After settings and adjustments are made in relation to quills on idle spindles, the crank is turned and the settings are checked on the rule gauge.

On the base rail opposite the ring rail are numbered pins that hold filling packages used to illustrate various settings.

The frame work is painted black, operating parts are green, and places where adjustments are made are red. (K-156) *Joe S. Coughman, Clinton, S. C.*

Elimination of Vibration Stops End Breaks at Knitting

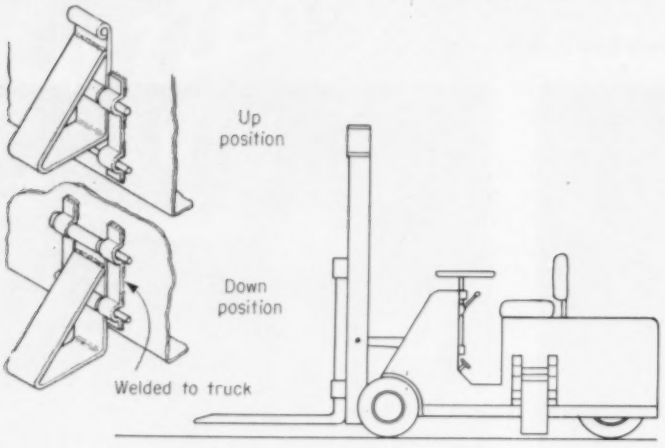
We used to have trouble with tails breaking at the knot on cones when they ran out on our knitting machines. The yarn was doubled on the machine.

We tried all kinds of ways to stop the trouble. For example, we attached holders on the ends of the spindles; but this change made the spindles too short.

We studied the knitter at his job and observed that the vibration of the machine caused the small cones on the rack to turn just enough to break the tails of the yarn.

The answer to the problem turned out to be almost too simple: the machine was running too fast and setting up unnecessary vibration. We slowed the speed 1 rpm., and the tails stopped breaking. Time saved offsets the slower speed. (K-3866)

Outriggers on Lift Trucks Keep Trucks From Tipping



Fork lift trucks have a tendency to tip over when they are used on unlevel ground or are driven crossways across a ramp.

The outrigger shown in the accompanying sketch prevents tipping even when a heavy load is being carried with the lift in its top position. It is made from flat iron ½ in. thick and 6 ins. wide.

The stock is long enough to roll at one end for a pin and to make three sides, each 18 ins. long. A second section is welded to the center of the rolled side for a second pin. Two of these pieces are made, one for each side of the truck.

Two other pieces of stock are made, one for each side of the truck, and they are welded to the truck.

When the truck is on level ground, the outriggers are raised and are held by pins well away from the ground. But when the trucks are on unlevel surfaces, the pins are removed to drop the outriggers down. Then the pins are replaced. (K-3811) *W. H. Mullen, Quincy, Mass.*

Household Ironing Board Makes a Shop Workbench

An extra workbench is often needed in a machine shop or mill carpenter shop for jobs such as welding or gluing small parts. The workbenches are also helpful in the mill roll shop.

An excellent workbench can be made from an all-steel folding household ironing board. It can be set up in an open space so that the worker can walk all the way around it to work on a part.

Then when it isn't needed, it can be folded and stored out of the way in a very small space. (K-3896)

$25 KINK WINNER

The $25 prize for the best Kink in September was won by:

William I. Linder, Spartansburg, S. C., "Spooler Blower Operates Drum-Roll Brush Cleaner."

WATCH FOR NEXT MONTH'S WINNER

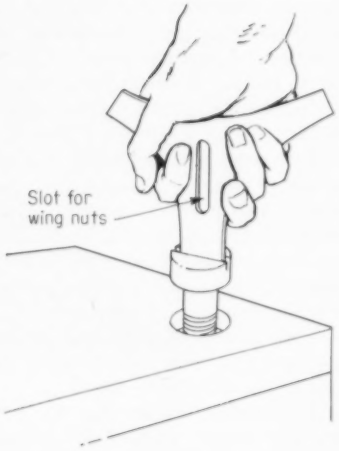
Magnetic Pocket Compass Detects Motor-Cable Breaks

An ordinary small pocket compass can be used to detect breaks in motor cables. A magnetic field surrounds current-carrying cables, which will deflect the needle of the magnetic compass.

Just pass the compass along the cable to be inspected. The current that follows the compass needle will deflect the needle at right angles to the cable. If there's a complete break in the cable, there will be no deflection. And if there is an intermittent break, the needle will jump erratically.

This test can be made with the motor running. Bad running is often the result of an unsteady flow of current from bad contacts or intermittent breaks in connecting cables. (K-3932) *W. E. Warner, Essex, England*

Triangular Screwdriver Loosens Screws and Nuts



The triangular screwdriver shown in the sketch loosens or tightens screws in close places that an ordinary screwdriver will not go into. And with the tool you can exert enough force to move very large screws.

Each prong of the screwdriver fits a different-size screw. The cutout section in the center is to loosen or tighten wing nuts. (K-111) *Charles H. Willey, Penacook, N. H.*

For clearer size, truer colors

. . . in warp sizing and in finishing, use TEN-O-FILM starches.

In warp sizing, TEN-O-FILM starches cook completely in thirty minutes and remain stable through prolonged heating and circulating. Sizing and desizing of all types and blends of yarns may be done at lower temperatures to reduce "bleeding," and permit use of a great variety of dyes.

In finishing, the clarity of film produced by TEN-O-FILM is a real advantage. There is no masking of colors in dyeing man-made fibers.

Our technical service group has had wide experience and marked success in adapting this versatile starch to the varied needs of many textile applications. The production advantages and process improvements achieved by TEN-O-FILM can be fitted to your needs by consulting our textile technicians. Contact our nearest sales office or write direct.

TEN-O-FILM® starches

Fine products for the Textile Industry: EAGLE® • FOXHEAD® CLARO® • GLOBE® and TEN-O-FILM® starches • GLOBE® and EXCELLO® Dextrines.

CORN PRODUCTS SALES COMPANY
17 BATTERY PLACE, NEW YORK 4, N.Y.

CIRCLE 135 ON READER SERVICE CARD 135

Lines on Floor Make Sock Measurement Easy

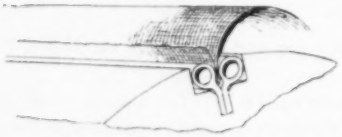
We knit baseball socks of two different lengths, one for boys and the other for men. Because of variation in the yarn, socks have to be measured at each yarn change to make sure the lengths remain the same.

We formerly used a yardstick for measuring, but this method was hard on the eyes and awkward to carry out. Sometimes the operators would forget the exact measurement, and off-length socks would be shipped to a customer. And yardsticks were always getting lost.

We greatly improved the accuracy of our measurements by painting two lines on the floor in front of each machine. One line marked B is for boys' socks; the other marked M is for men's socks. Each line is the exact length of the sock to be measured.

At each yarn change or when we change from one size to the other, it is easy to check the correct length of the socks against the marks on the floor. We no longer make socks that are too long or too short and have to be sold as seconds. (K-4004)

Rubber Strips in Cloth Roll Eliminate Fabric Creases



A common defect in our woven man-made-fiber fabrics, particularly acetate and nylon, is creases made at the loom. And these defects cannot be eliminated in finishing.

One source of creases at the loom is weavers starting a new cut of cloth around the cloth roll.

Formerly we used a wood strip to hold the end of the cloth in the cloth-roll groove.

We have eliminated most creases by replacing the wood strip with two strips of rubber inserted into the cloth roll. Now the cloth is pressed between the two rubber strips with the back of one blade of the weaver's scissors.

In this way, the weaver puts the cloth more evenly in the cloth roll and therefore insures a smooth start. The weaver can also start the cloth in the rubber faster and more easily than with the old wood strips.

Other advantages are: (1) the rubber strips are permanent and (2) there is no danger of splinters flying out at the shearing machine and injuring employees, as with wood strips.

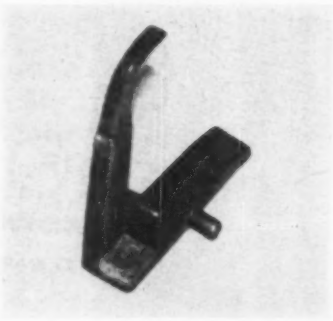
The rubber strips used are common weather strip made for outside doors of homes and sold in hardware stores. The cloth roll is routed out in the old groove of the roll. The rubber strips are cemented into the roll. (K-174) *L. Acton, Essex, England.*

Leather Riveted to Temple Repairs Worn Loom Knife

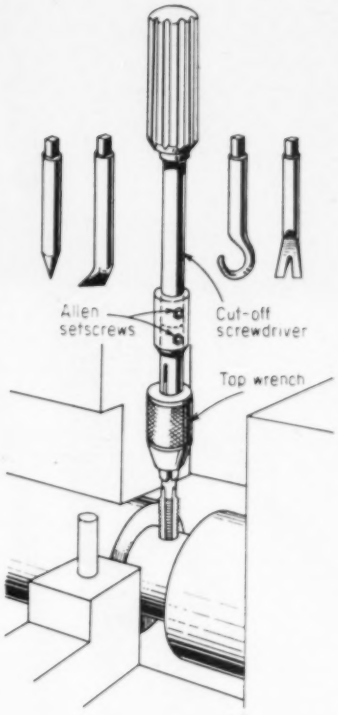
On our single-shuttle looms running filament and spun man-made fibers, our temple knives become worn and do not cut off the filling-yarn ends at bobbin transfers. This wear is at the back surface of the knife that contacts the temple when the spring returns the knife to its resting position.

And in addition to failing to cut, the knife often strikes the reed and damages it.

We corrected this wear by riveting a small piece of leather ⅛ in. thick to the worn part of the temple knife. The leather runs for many months before it has to be replaced. (K-189) *C. M. Whitcher, Midland, Ont.*



Screwdriver and Tap Wrench Tap Holes in Tight Places



It's sometimes necessary to tap small holes or retap worn holes in production machines where an ordinary tap wrench will not reach.

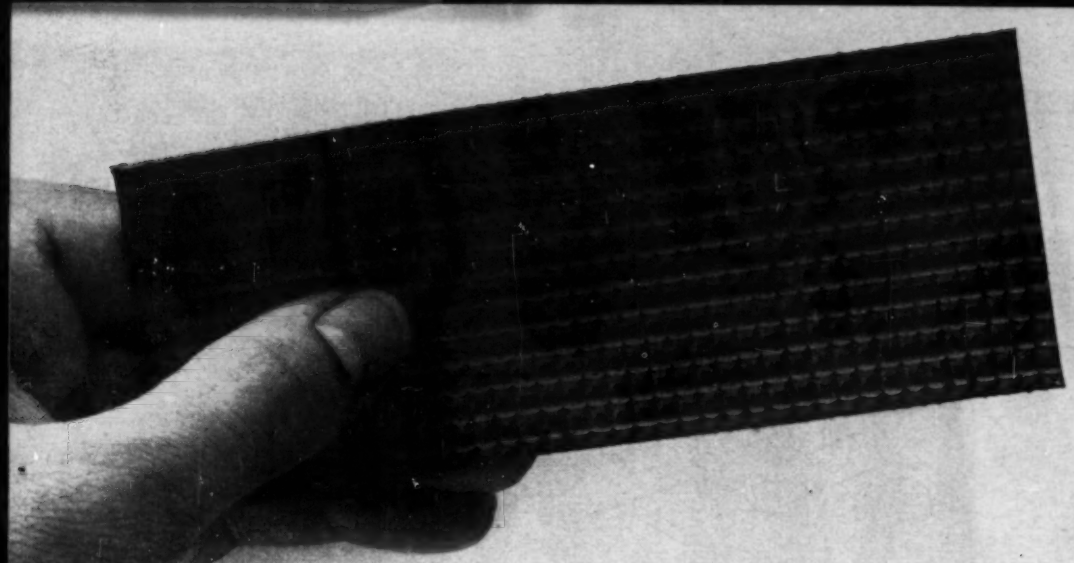
We altered a tap wrench, as shown in the sketch, so that it taps all hard-to-reach holes.

First we removed the T-rod handle from a tap wrench.

We cut off the blade of a 12-in. screwdriver and made a coupling to fit the cut-off end. The other end of the coupling is bored to fit the tap-wrench-handle neck.

Two small hollow-head setscrews hold the coupling to the two tool parts. This finished tool taps small holes easily.

This tool can also be used as a hand holder for the small tools shown in the sketch. Just fasten the small tools in the tap chuck, and they act as a hand vise. The tools work so well that many of our mill production fixers have had sets made for their personal tool boxes. (K-3765) *Charles H. Willey, Penacock, N. H.*



High-friction loom take-up roll cover gives firm, even tension – selvage to selvage

This high-friction loom take-up roll cover will help you eliminate fabric defects caused by uneven take-up tension. It's Armstrong NO-732, and it has almost double the holding power you'd expect from a conventional rubber material.

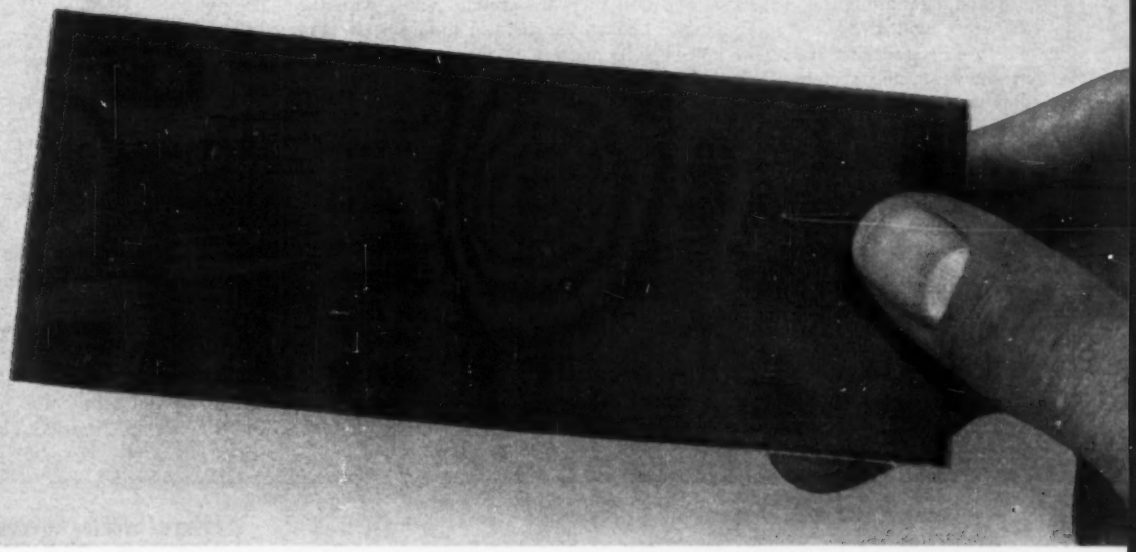
NO-732 provides just the right take-up tension, evenly distributed across the width of the cloth. It maintains a firm, steady grip even on hard-to-hold fabrics. In addition, NO-732 gives you years of economical service.

NO-732 is available with either a finely creped surface or a new gridded surface. Both are shown here in approximately actual size . . . and both have the high friction that means unusual holding power.

For more information and test samples of Accotex NO-732 loom take-up roll cover, see or call your Armstrong man. Or write to Armstrong Cork Company, Industrial Division, 6911 Dauphin Street, Lancaster, Pennsylvania.

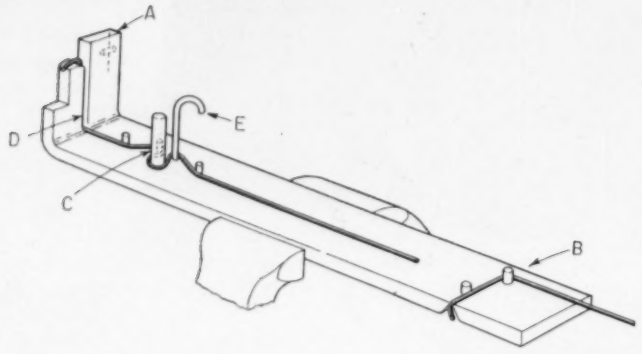
Armstrong LOOM SUPPLIES

. . . used wherever performance counts



CIRCLE 137 ON READER SERVICE CARD

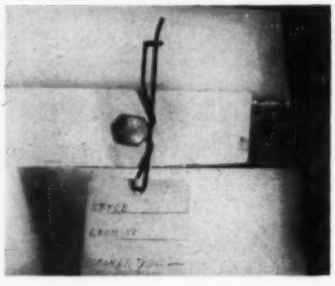
Jig Makes Safety Hook To Hold Loom Warp Tickets



On each loom in our weave room, we have a warp ticket showing the style of fabric, date the warp was slashed, slasher tender's name, and similar data. This ticket is very valuable in marking doffed cloth and showing bad slashing to the slasher foreman.

But these tickets are sometimes knocked off the looms when the looms are blown off or in other ways.

To hold the tickets securely on our looms, we have attached them to the loom arches with hooks as shown in the photograph. We've used various hooks in the past, but none has worked as well as this one.



To make the hooks all exactly alike, we have a jig on a workbench in the center of our weave room. The jig is made from a piece of flat iron ½ in. thick, 1½ ins. wide, and 14 ins. long. One end of the iron is bent at a right angle to form a projection 2 ins. long and is shaped as shown in the sketch.

Seven holes are bored in the face of the iron, and five short permanent pins are pressed into five of the holes as shown in the sketch. Two other pins, one straight and one hooked on one end, are put into the other two holes and removed as needed.

Hooks for the ticket are made from a No. 9 telephone wire $\frac{3}{32}$ to ⅛ in. in diameter and 10 ins. long.

Sweepers and other hour hands make the hooks in their spare time; so there's no extra cost in making them. These employees enjoy this work very much since it breaks the monotony of their regular jobs.

The first step in making the hook is to insert one end of the 10-in. length of telephone wire into the hole *A* of the sketch and to bend the end to a right angle.

Then the wire is bent as shown at *B* in the sketch. The third step is to coil the wire around pin *C* with the hooked end held in the jig at *D*. Pin *E* is inserted in the jig, and the wire is bent around it and doubled back to fasten to the first end like a safety pin. The wire is bent around the smaller pins for short arcs.

The finished hook is fastened to the loom arch with a $\frac{5}{16}$-in.-dia. capscrew. (K-166) *John H. McGowan, Spartanburg, S. C.*

Cut Pipe at Angle To Improve Liquor Flow

If you cut the ends of waste or feed pipes at an angle, liquors will flow out faster. The larger cross section of the diagonal cut reduces the hydraulic pressure in the pipe and gives the effect of a larger pipe. (K-177) *H. A. McLean, Bradford, Yorkshire, England*

Adjust Settings To Cover Loops in Knitted Fabrics

In knitting bulky goods on circular machines in half-cardigan stitch, we found that some cones are less uniform than others and that small defects used to show up in the finished fabric. This condition caused excessive seconds and rejects.

A study of the situation showed that at alternate feeds both the dial and cylinder needles knit; at other feeds only cylinder needles knit while dial needles tuck. A good bulky-knit construction must have a full-rounded loop with good covering at the face of the fabric on the cylinder side, which was not possible with the settings we were using.

To overcome the trouble and still use the same yarn, we found that we could produce loops at the all-knit feeds that are barely visible by setting the all-knit feeds as tight as possible and leaving the knit-tuck feeds very loose.

In other words, the cones lacking in uniformity can be used at the all-knit feeds without the defects showing up in the fabric. The same thing applies where spotty or slightly soiled light-shade yarns are used. (K-193)

Reverse Yarn at Quiller To Prevent Loom Stops

In quilling crepe yarns, we used to run all our spindles in the same direction. This practice gave us trouble when the quills reached the 2x1 looms because when Z-twist yarn is quilled on a right-wind spindle, the yarn picks up more twist as it leaves the shuttle and tends to kink and break.

We stopped this trouble at the quill winder by placing the bobbin on the creel pin so that the yarn leaves the supply package in the opposite direction and loses a turn or two during the operation. The twist is put back in the yarn as it leaves the quill at the shuttle.

To help the winder operators, we made up some 5x5-in. pieces of cardboard and marked them to indicate how the yarn should leave the package. Two different colors are used for S- and Z-twist yarns. The system works fine. (K-171) *Joseph A. M. Sewesky, Berwick, Pa.*

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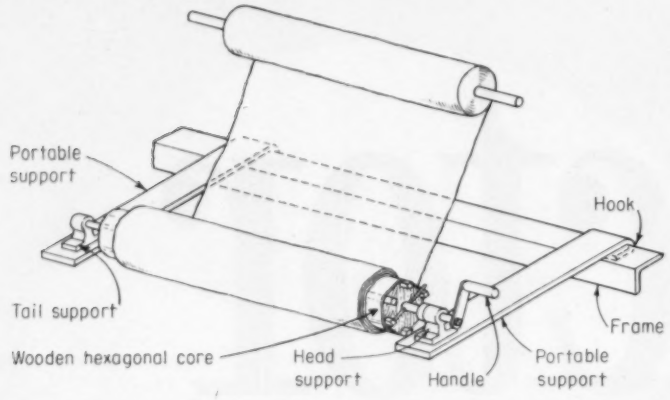
Wooden Reel Speeds Rewinding of Tricot Cloth

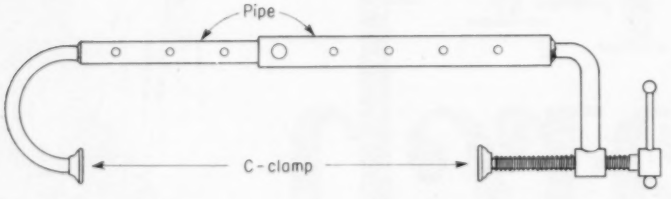


We used to have a lot of trouble in rewinding knitted tricot fabric because the cloth was too wide for the machine we had to use.

We solved the problem by installing two portable supports on the machine frame, as illustrated to hold up a wooden core that is rotated with a handle. The hollow (for lightness) wooden core is hexagonal in shape and covered with cloth.

We are now able to wind our tricot fabric into neat rolls. (K-4070) *Hokao, Fukuyo, Fukui-ken, Japan*

Cut C-Clamp and Two Pipes Make Good Expansion Clamps



In our shop, we often need an expansion clamp; so we made one ourselves from an ordinary C-clamp. The clamp is cut into two pieces at its center.

Two pieces of pipe, one a sliding fit in the other, are cut to equal length. Five matching holes are drilled all the way through both sections of pipe.

One end of the cut C-clamp is welded into one end of the large pipe, and the other end is welded into the end of the small pipe. A hardened steel pin is used to hold the two sections of pipe together at any of the five graduated hole positions in the pipe. (K-180) *W. E. Gilmore, in the Lincoln Stabilizer*

Groove in Shuttle Wall Prevents Wear on Nylon Loop

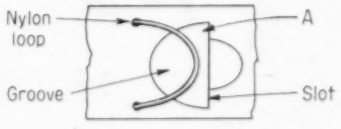
Using nylon loops as a yarn-tensioning material in our shuttles has reduced labor and materials cost in our weave room more than any other change we've made in recent years. But at first, the nylon loop nearest the shuttle eye at the back of the shuttle was damaged by the new bobbin as the bobbin was transferred into the shuttle.

We eliminated this wear to the loop by cutting a groove in the side wall of the shuttle. To cut the groove, we peg a new loop in the shuttle in the usual way. Then we press the arc of the loop against the shuttle wall and mark the pattern of the loop on the shuttle wall as shown at *A* in the sketch.

With a sharp-pointed knife, we cut a shallow slot on each side of the marked section. The shuttle is put in a vise, and a shallow groove is cut in the shuttle wall around the cut slot; this groove is only $\frac{1}{32}$ to $\frac{1}{16}$ in. deep.

We sharpen the end of an old file ½ in. wide and use it for a chisel. After the groove is cut, we sandpaper the surface smooth to prevent hanging filling.

After a loomfixer learns to do this cutting job, he can do the complete job in only 4 mins. per shuttle. Loomfixers fixed a few shuttles each day until all were completed. (K-157) *John H. Ingram, Greenwood, S. C.*



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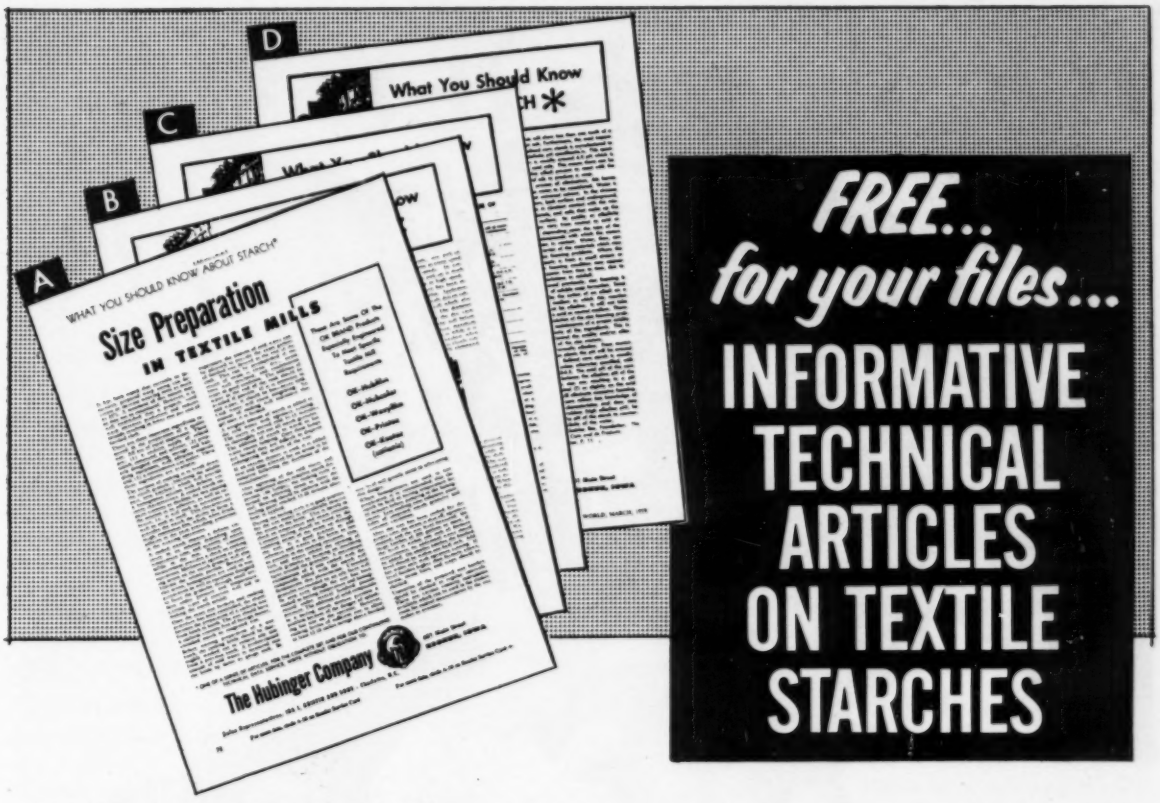

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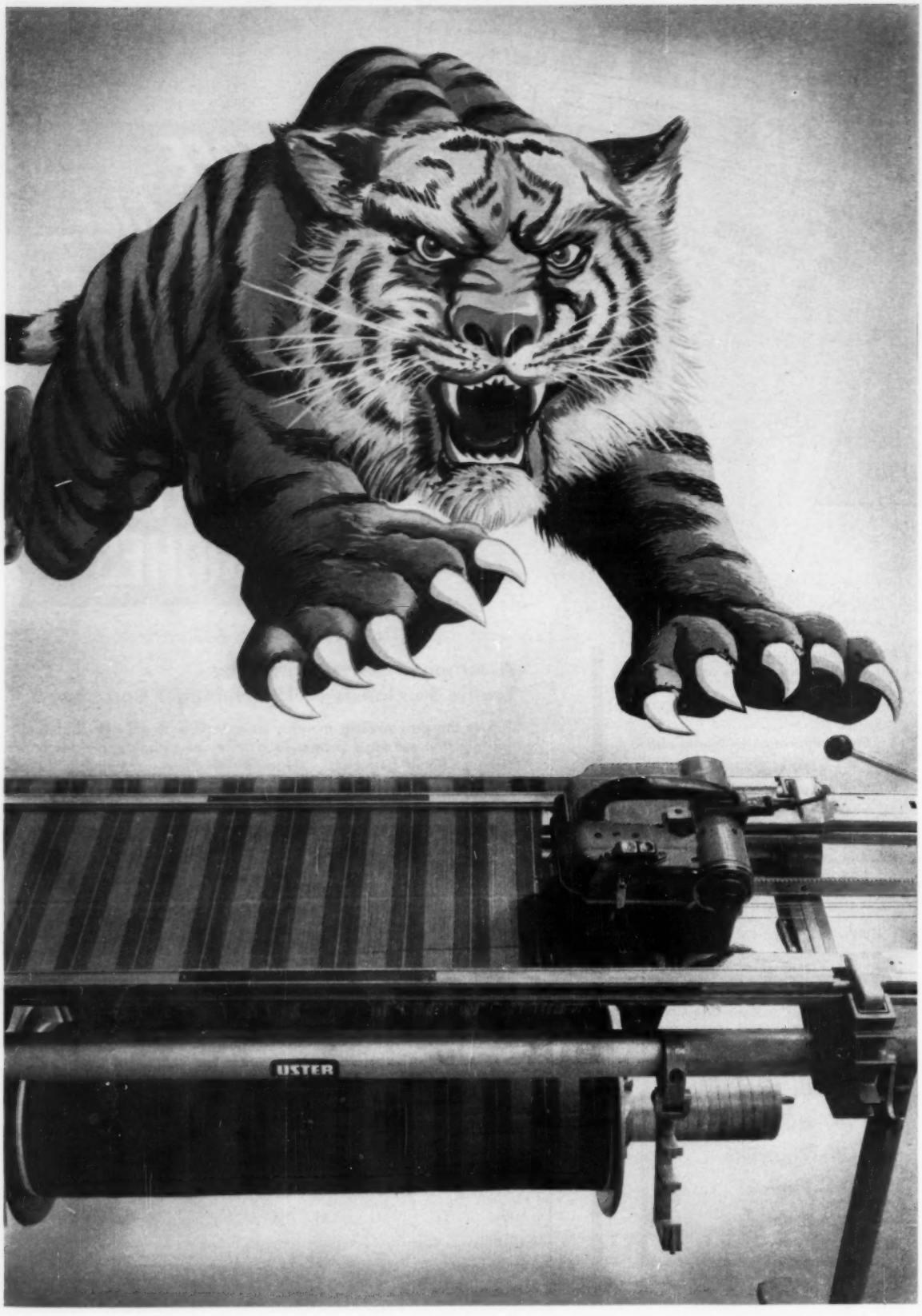
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This TIGER leaps five years ahead!

USTERMATIC RIPS DOWN HIGH COSTS OF WARP TYING

Ustermatic wipes out old-fashioned warp tying. **Ustermatic** has demonstrated dramatic speeds up to 700 knots per minute on a flat-lease 72″ warp.

Under day-to-day mill operating conditions, **Ustermatic** can tie from 550 to 650 knots per minute. The net result is efficient reduction in down time for warp tying of all looms.

Ustermatic is a powerful tool to keep looms at maximum production.

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On a single colored cotton warp of 4000 ends and 43½″ wide, the **Ustermatic** system of warp preparation requires, at most, 5 minutes. **Ustermatic** ties at 600 knots per minute. TOTAL TIME: **12 minutes.**

Current obsolete methods require an average 15 minutes warp preparation, then tying at 400 knots per minute. TOTAL TIME: 25 **minutes.**

The **Ustermatic** system cuts warp tying IN HALF.

USTERMATIC RELEASES ONE MAN EACH SHIFT

The **Ustermatic** system of zone warp replacement releases one man on each shift for other jobs in the mill.

Substantial savings in the weave room are immediately obvious.

DEMANDS OF THE INDUSTRY DESIGNED USTERMATIC

The largest weaving mills have unstopped many bottle-necks, but warp-tying still shows as a significant figure on annual cost sheets.

Ustermatic punctures 30-year-old notions of slow-down warp tying. With **Ustermatic,** the warp-tier can't be slow.

Ustermatic is fully universal, will tie every known warp material. Multicolored warps from a lease with maximum count variations are tied perfectly at high speed.

Flat lease or combination, **Ustermatic** handles the complete yarn range.

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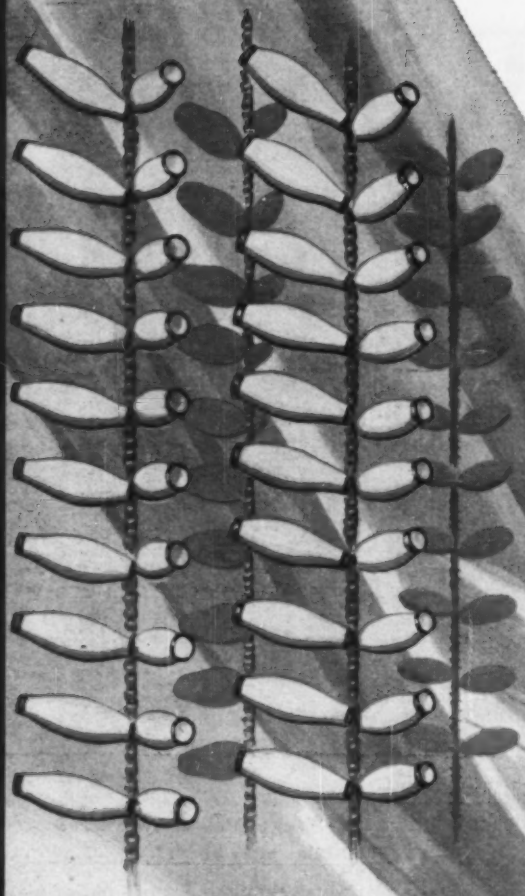

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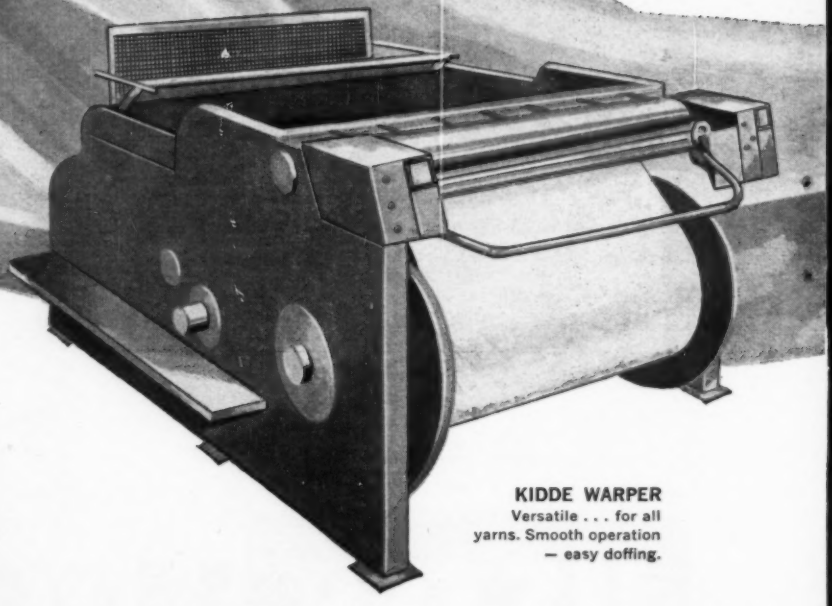

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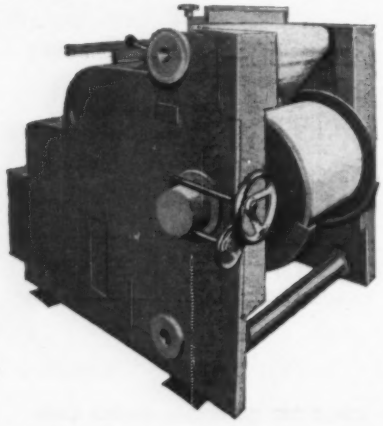
Versatile . . . for all yarns. Smooth operation — easy doffing.

FOR KNITTING:
Deliver from the Kidde creel to one of the Kidde Tricot warpers (there's one for every size spool). Finish the operation on a Kidde Knitter.



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Here's the formula for good warps . . . Start with any package . . . put it on a Kidde creel . . . deliver it to a Kidde warper . . . run it thru a Kidde slasher. You'll then have the kind of warp essential to the production of top quality fabrics. Of course, the creels, warpers and slashers may be used separately . . . but, for the finest results, maximum versatility and highest production they're designed to work together.

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Metallized and Foil Mylar* • Supported Metallics

Shining glints of FAIRTEX® Metallic Yarns bring out a new depth, a *new dimension* in fabrics . . . to highlight the beauty of color and texture, and make the fabric sell better.

Now in a wide range of style-wise colors, FAIRTEX® Foil, Butyrate, or Metallized Mylar* Yarns create new luxury and excitement for fabrics . . . to stop the eye and start the sale.

These soft, pliable yarns can be laundered, dry cleaned, or scoured with complete confidence. Because they never break, flake off, or tarnish, FAIRTEX® Yarns work easily in knitting or weaving . . . their beauty will outlast the fabric itself.

So, brighten your sales . . . add NEW DIMENSION to your fabrics with shining highlights of FAIRTEX® Metallic Yarns!

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Add the glistening magic of FAIRTEX® Metallic Yarns to

Automobile Upholstery — **Blankets and Bedspreads**

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...for lustre that lives...for the life of the fabric!

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New Form of Orlon Announced

Du Pont last month introduced Orlon 21, a fiber with a built-in crimp that relaxes in the presence of water and returns when the fiber dries. Du Pont calls this characteristic "reversible crimp."

The fiber is now available in 3- and 6-den. staple. A tow form is under development.

Orlon 21 is priced at $1.53 per lb., compared with a price range of 94¢ to $1.28 for other types of Orlon. Its first use will be in higher-priced, bulky knitwear.

Hosiery Color Card for '60

The new hosiery color card for spring and summer 1960 has been issued by the Color Association of the United States, Inc.

The new collection is called Pastel Shadows and features six delicate tints: Ivory Mist, a soft, pale beige; Coralbell, a blush of peach; Sunlight Beige, a light, warm, spun-gold shade; Green Bud, a pale green with yellow in it; Frappe Pink, a mauve-cast powder pink; and Silver Pear, a light, true gray.

Two blues are also included: Blue Hue, a medium-blue with gray in it, and Gentle Navy. Four basics, beiges with rose to spice casts and a taupe, complete the color card.

New Uses for Rovana

Sunbury Textile Mills and Laurel Mills, Inc., are weaving Rovana, Dow Chemical Co.'s saran microtape, for two new end uses.

Sunbury is weaving Rovana on jacquard looms for luggage fabric. Two basic fabrics are being woven, both having black warps. The filling of one fabric is white, the other blue. The fabrics are then laminated to a cotton-gabardine lining.

Laurel Mills is weaving Rovana into place mats. Available colors are pink, yellow, white, red, aqua, light green, and toast. Each color is woven with white to give a dual-color, iridescent effect.

Acrilan Wovens Dyed To Match

Chemspun Fabrics, Div. of Chemspun Yarns Ltd., last month introduced woven fabrics of Acrilan 16 piece dyed to match knitting yarns.

Acrilan 16 is highly receptive to piece dyeing and makes interesting cross-dye effects possible, the company says.

Fabrics are of a basic twill construction. Plaids and classic patterns such as shepherd's and hound's-tooth checks are used.

New Taslan Shoelaces

Lincoln Lace & Braid Co. is introducing shoe laces of Taslan textured-nylon yarn this fall.

Laces are being offered for both orginal and replacement use in men's, women's, and children's shoes. They come in black, white, and two shades of brown.

New Gulistan Pattern

A. & M. Karagheusian, Inc., has added a new pattern to its Palais Royal quality in its Elegance Group of Gulistan Carpets. It is called Chateau Fleur.

The new carpet has a white latex back and is guaranteed permanently mothproof. It is available in 9- and 12-ft. widths and in room-size rugs, with or without heavy wool fringe.

New Rayon Drapery Fabric

A new washable, wrinkle-resistant rayon fabric for draperies, called 300 WH, was introduced last month at the AATCC convention. Industrial Rayon Corp. is the supplier of the yarn used.

Draperies made of the new fabric can be machine washed and require little or no ironing.

A number of mills are manufacturing 300WH under the initial supervision of Industrial Rayon and the Warwick Chemical Div., Sun Chemical Corp.

New Nonwoven Filter

A new low-density, nonwoven filter material has been developed by Hollingsworth and Vose Co.

The filter material, trademarked Hovolite, uses a microfine rayon fiber developed by American Viscose Corp. in a matrix of vinyon.

Hovolite is heat-sealable to itself and can therefore be easily laminated and heat-formed or shaped. It is available in thicknesses from 0.1 to 1.0 in. in rolls, sheets, die-cut pieces, or fabricated parts.

Polypropylene Apparel Fabrics

Montecatini of Milan, Italy, is showing apparel fabrics of polypropylene and polypropylene-viscose blends that have the appearance, texture, and hand of fine cotton or linen.

The fabrics are machine washable and nonstatic and have high tensile strength and good resistance to abrasion.

Comal's New Hosiery Package

Comal Hosiery Mills, Inc., is now packaging its nylon hosiery in transparent Tenite polyethylene plastic.

The package is decorated with line drawings and a sales message in gold on a yellow ground. It is prepared for either rack or counter merchandising.

The brand name and description imprinted on the hosiery itself are seen through a transparent oval on the front of the package. A larger transparent panel at the rear allows customers to examine the hosiery more closely.

Arnel-Blended Knitwear

Knitted outerwear made of Arnel-Orlon and Arnel-cotton blends is avail-

able in volume for the first time.

Men's sport shirts and women's and children's clothing made of 50-50 Arnel-and-Orlon circular-knitted fabrics are being sold at retail for the first time this fall. Apparel made of 60-40 Arnel-cotton blends in circular-knitted fabrics will be available at retail next spring.

Arnel-Orlon yarns are produced by Deering-Milliken & Co. and the Textile Div. of U. S. Rubber Co. Arnel-cotton yarns are being produced by Fitchburg Yarns and U. S. Rubber.

New Kodel-Cotton Socks

Interwoven Stocking Co. has introduced socks of Kodel and cotton.

They will retail at $1.00 and $1.25 a pair.

Color Cards for Fall 1960

The Color Association of America, Inc., last month issued two new fabric color cards for fall 1960. One is a woolen-and-worsted card and the other a man-made-fiber and silk card.

The woolen-and-worsted card promotes eight deep woolen shades. Softly Glowing is the name of this group, which includes a greenish-blue, Heron, a rust shade, Glowing Ember, and Rich Ruby.

Brightly Showing is the second promotional group of eight lighter shades.

The man-made-fiber and silk card features shades called Candle Lights and Shining Lights. The candle tones are clear, strong pastels, including coral, turquoise, lavendar-blue, and iris.

Shining Lights colors include Orange Glace, Limelight, Sapphire Gem, Scarlet Geranium, Dark Pansy, Orchid Purple, Imperial Peacock, and Jewel Green.

New Resin-Coated Fabric

Irvington Div., Minnesota Mining & Mfg. Co., has introduced a new line of resin-coated fabrics, called Irvington-brand coated fabric 4222. The fabric, coated with a modified polyester resin, is available in various colors on nylon, Dacron, and glass cloth in 7 and 14 oz. per sq. yd. coated weight.

New Elastic-Backed Vinyl

An elastic knitted fabric is the backing of a new vinyl upholstery material introduced by Columbus Coated Fabrics Corp.

The new upholstery fabric, called Milano, has an embossed texture and a silken sheen. The vinyl face of the new material is based on Pliovic.

Milano is available in 17 colors.

Lowenstein's New Collections

M. Lowenstein & Son has introduced its collection of fabrics for the popular-priced and volume markets for spring and summer 1960.

Department T featured novelties such as Placé and Capri. The Placé collection showed printed cotton lace in florals, giant soft plaids, and flower-garden borders. The Capri novelties showed three 36-in.-sq. scarf patterns on cotton sateen. The Kabuki group was seen in richly colored florals. This collection was created on Cotron.

Batik patterns, textured prints, embroidered effects, and bordered bands were also shown by this department.

Department F featured Cobina, printed narrow-wale piques; Tea-Time, a drip-dry smooth cotton in calico prints in both pastel and dark shades; and Bordeno, border prints coordinated with all-overs on white grounds. Cotron from this department appears in Carillon, prints styled for dresses; and Aloha, three Hawaiian patterns.

Department B presented percale in varying price categories.

The Pacific department showed a group of all-nylon chiffon prints in blurred covering florals and a line of Enka and Bemberg sheers in dressy and tailored patterns. A 15-den. nylon tricot is new in this collection.

Department KJ highlighted Kool-N-Karefree, a combed cotton lawn with a wash-and-wear finish, and Department RE featured Cordana, a ribbed cotton with the look and depth of corduroy.

US Rubber's New Vinyl Fabric

U. S. Rubber Co. introduced Kenya, a new line of elastic Naugahyde upholstery fabric, last month.

The fabric has a shantung look with a slubbed texture. It has multibands in different values of the same color, correlated with solid decorative colors. Multibands and solids are available in red, turquoise, espresso, mocha, marigold, opal white, russet, blue, antique gold, and bronze olive.

It is elastic-fabric backed and 54 ins. wide.

Lees's New Wool Carpet

James Lees & Sons Co. last month introduced a new quality carpet called Mount Airy. The all-wool carpet is a plush texture in Wilton-type design, sparked with a scattering of loop pile in its uncut ground.

Colors available include beaver, ivory, Azore blue, martini, Alpine green, Monterey beige, bisque beige, and cobblestone beige. Its suggested retail price is $13.50 a sq. yd.

New Woven Interfacing

An interlining fabric for use in wash-and-wear clothing has been developed by the National Hair Cloth Co. It is priced at $1.00 a yd.

The 66-in.-wide fabric has a Dacron-cotton warp and a Dacron-goat hair-rayon filling.

New Elastomeric Fiber

Du Pont announced plans last week for commercial production of an elastometric fiber called Lycra spandex fiber. Lycra was introduced for trade evaluation as Fiber K in April, 1958.

Lycra, the company says, weighs less and is stronger and more durable than conventional elastic thread.

Its first major application will be in foundation garments; but it is considered applicable to other textile end uses, including surgical stockings and swimwear where it has already been evaluated.

Lycra is sold on ½-lb. tubes. Prices per lb. are $9.80 for 70 den.; $6.40 for 140 den.; $5.35 for 280 den.; $4.90 for 420 den.; and $4.75 for 560 den.

caprolan®

THE NYLON FIBER BY ALLIED CHEMICAL

TEXTURED YARN SEMINAR

#13 of a series

TENSIONS NEED ATTENTION!

If your mill is moving ahead with the trend to textured filament nylon, you know this simple truth:

FACT: Textured Filament Yarns and Spun Yarns Are Not The Same.

THEREFORE, different methods of handling textured filament yarns are necessary for best results.

FOR EXAMPLE, take the matter of tensions: Because textured filament yarns are "precise" yarns, the use of post tensioning devices at the creel is very important if streaks in finished fabric are to be avoided. Equal tensions must be obtained, keeping yarns taut . . . and every end should be checked carefully.

We'll be happy to help you off to a good start in the use of Textured Caprolan in your product lines. Call our technical service, end-use development, and fiber application laboratory staffs for assistance . . . any time.

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No. 13 in a series—How your Du Pont salesman is backed by many sales-building activities, including Fiber Research, Technical Service, Fabric Development and Merchandising.

The man from Du Pont... ready to help you unwind new fabric ideas

Standing in the midst of some of the new fabrics he has helped to create is Ken Ryan. His title is Fabric Development Manager, but he is better known as a "hard-headed perfectionist."

Shown here with Ken in the new fabrics showroom at Du Pont's New York office is Walter Ross of Rosewood Fabrics, one of many who frequently discuss new fabric concepts based on Du Pont fibers with Ken or his associates.

Ken Ryan's group benefits from the fact that hundreds of Du Pont employees are working on fiber and fabric research, developing and perfecting new modifications of Du Pont nylon, "Dacron"* polyester fiber, "Orlon"** acrylic fiber, "Acele"*** acetate, and rayon fashion yarns. When these developments show real promise, they are further worked out in direct collaboration with mills to assure they will result in fabrics that meet high-fashion and mass-market needs. To initiate new fiber ideas, to find unique textures through new applications of engineering principles, to follow through any economically sound idea that may prove of importance to the textile industry: that's Ken's job.

For this is Du Pont's constant aim—to help the textile industry improve America's textile values. The highly knowledgeable, always practical information developed by the Fabric Development Group helps you, our customer, build a better market for your fabrics.

*"Dacron" and **"Orlon" are Du Pont's registered trademarks.
***"Acele" is a Du Pont trademark.

From raw fibers to retail sales... Du Pont helps build profits for you

PRODUCT and PROCESS NOTES FROM DU PONT

"ACELE"* TYPE 20. A few years ago Du Pont introduced a new modified cross-section acetate yarn called "Type 20" to the upholstery industry. This new yarn demonstrated greater bulk, resilience and covering power in pile-frieze fabrics, set new standards in fabric construction and earned a permanent position in the trade. Now Du Pont offers fine denier "Acele" acetate Type 20 yarns for use in lighter-weight fabrics for apparel and draperies. The modified cross section gives fabrics greater bulk and substance, fuller draping properties and a drier hand, with the look and feel of silk, than conventional acetate yarns have.

NEW 30" FLANGE NYLON TRICOT BEAM. Du Pont has a new 30" flange tricot beam for 30 and 40 denier. This new packaging development, available in limited quantities, is designed to fit the trend to high-speed tricot machines.

Because of its increased size, the new beam contains more than twice the yardage of the conventional 21" beam, enabling mills to run their high-speed knitting machines more than twice as long without change—this accomplished with no sacrifice in performance and quality.

DU PONT SPARKLING NYLON. An exclusive fiber development of major significance to the hosiery industry has just recently been announced. "Du Pont Sparkling Nylon" in 15 denier, created for high-fashion, special-occasion hosiery, makes stockings glimmer. Timed for holiday selling, the sparkling look is engineered into the structure of the fiber. It will not fade out, wash out or wear out. It lasts the life of the hosiery.

IMPROVED PRINTING OF BLENDS OF "DACRON" AND COTTON.** Now fabrics of "Dacron" polyester fiber and cotton can be economically printed in a full range of shades with good fastness properties. Improved printing is achieved by a new resin-bonded pigment system developed by the Interchemical Corporation. Generally, fastness properties of this system compare favorably with those of washfast printed cottons. Extensive wear tests under severe conditions show prints have excellent durability.

*Du Pont's trademark for its acetate yarn.
**Du Pont's reg. trademark for its polyester fiber.

Enjoy THE DU PONT SHOW WITH JUNE ALLYSON, Monday nights—10:30 E.S.T—CBS-TV.

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

CIRCLE 151 ON READER SERVICE CARD

 # 6 in a series reviewing the "reasons-why" for the consumer acceptance of Arnel

ARNEL'S "STAMPS" OF CONSUMER APPROVAL

One of the basic attributes of Arnel triacetate that has made this fiber such a singular success in the "wash and wear" and "ease of care" field is QUICK DRYING. Without question, Arnel's fast drying capability is as important to consumers as its ease of handling and processing to the mills and finishers.

After having bought a fabric made of Arnel the consumer is assured of satisfaction *and* of QUICK DRYING because:

1. Arnel is hydrophobic (water-hating). It is naturally very fast drying.
2. Arnel absorbs only 3.2% moisture under normal conditions, which helps make fabrics of Arnel extremely resistant to wrinkling and mussing, even under conditions of highest humidity.
3. This low level of attraction for water and moisture is *not* at the expense of other characteristics. Fabrics of Arnel have a desirable hand, drapeability, good dimensional stability and wash-fastness.
4. All fabrics carrying the official Arnel symbol have been pre-tested for performance claimed—including quick drying. (Tests are conducted free of charge by the Celanese Corporation of America.)

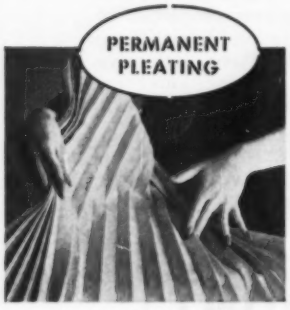
So, take advantage of the great consumer acceptance of Arnel. Let Celanese work with you to develop new Arnel fabrics. Booklets 12A, 13A and 14A, containing the important technical procedure and facts about Arnel, are available by writing Celanese Fibers Company, a division of Celanese Corporation of America, Box 1414, Charlotte, N. C.

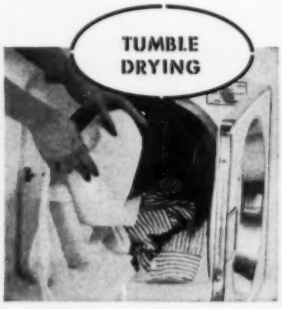
Celanese® Arnel®

District Sales Offices: 180 Madison Ave., New York 16, N. Y.; 15 N. Broadway, Des Plaines, Ill.; Western Merchandise Mart, Room 478, San Francisco, Calif.; P. O. Box 1414, Charlotte 1, N. C.; 200 Boylston St., Chestnut Hill 67, Mass.; 3179 Maple Drive N. E., Atlanta 5, Ga.

Export Sales: Amcel Co., Inc., and Pan Amcel Co., Inc., 180 Madison Ave., New York 16, N. Y.

In Canada: Chemcell Fibres Limited, 1600 Dorchester Street West, Montreal, Quebec





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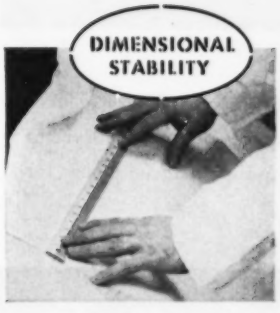
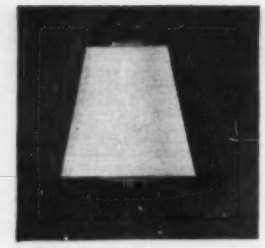


ARNEL*

*This is the official Arnel symbol—evidence that this fabric of this new triacetate fiber has been pre-tested for performance claimed.

Celanese contemporary fiber

CIRCLE 153 ON READER SERVICE CARD

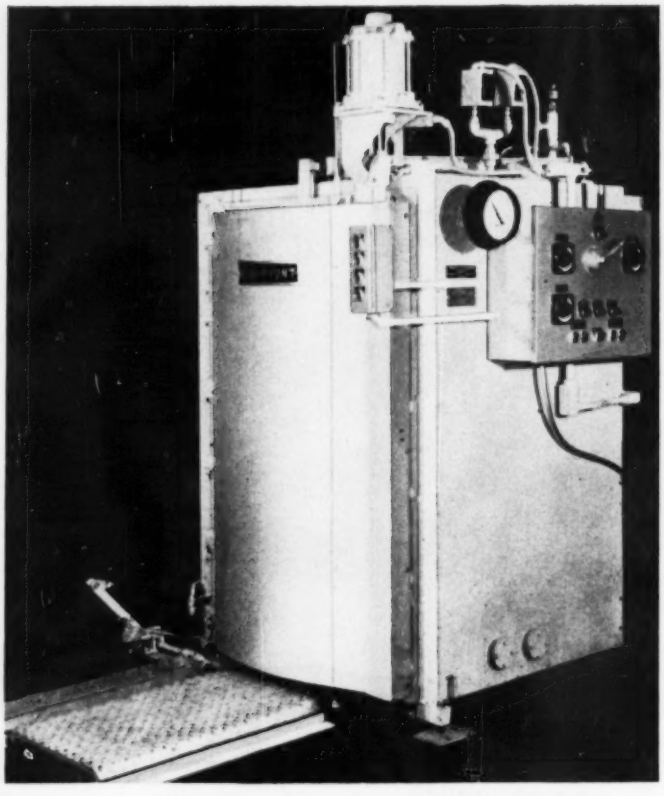


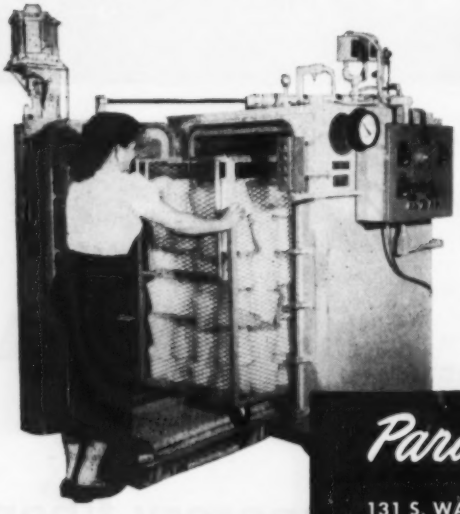
An improved process for rapid and uniform conditioning of yarn on the package with the

Paramount Vacuum Steam Conditioner

High speed, in-line production: Yarn trucks are used to collect the yarn packages from winders or spoolers. Then, they are wheeled into the Paramount Vacuum Steam Conditioner located in the packing area. After conditioning, the yarn trucks are moved directly to the packer without delay or rehandling.

How it operates: Exposure to a combination of alternate vacuum and steam cycles, within the vessel, uniformly moisture conditions and thoroughly twist sets the yarn. These cycles may be adjusted for sequence, duration, and intensity by different mills to accommodate differences in the type of yarn, moisture content, temperature and other factors.





The Paramount Vacuum Steam Conditioner is capable of uniformly conditioning yarn at temperatures of from 140° F. to 290° F.—all in a matter of minutes. Write, wire or phone for complete information.

Paramount Textile Machinery Co.

Main Sales Office

131 S. WABASH AVE. • CHICAGO 3, ILL., U.S.A. • Phone Financial 6-0125

FACTORY—KANKAKEE, ILLINOIS • CABLE ADDRESS PARFORM

WASH AND WEAR QUALITIES — Vycron's wash and wear performance with lower polyester fiber content results in greater values for the consumer.

PILLING RESISTANCE—Vycron's unmatched resistance to pilling assures the consumer of better looking, longer-lived polyester apparel.

Vycron*

POLYESTER FIBER

...America's Only Polyester Fiber Quality Controlled and Certified from Raw Material to End-Use by United States Testing Company, Inc.

DYE AFFINITY—Because Vycron has unusual affinity for dye color, it offers the fabric designer a more effective palette for his creative ideas.

WEAR RESISTANCE—Vycron's high degree of wear resistance shows up in the fabric and garment in two ways: greater tensile strength and greater resistance to abrasion.

Vycron is the most advanced polyester fiber ever to achieve commercial production in America. And that position of leadership will be safeguarded by the most stringent quality control and policing program ever put behind any polyester fiber, with the United States Testing Company, Inc., acting as official scientific laboratory.

First of all, the fiber will be under a tight check-control from the moment the raw material enters our plant until the fiber itself is ready for shipment. But that, of course, is normal procedure for any well regulated manufacturing operation.

Vycron quality control goes much further! As a matter of fact, we can accurately say that we never relinquish control of Vycron quality until it reaches the consumer's hands in a finished product!

Before any mill can label its grey goods or finished fabrics with the Vycron name, the fabrics must first be tested and certified by the Testing Company against specifications. The Vycron polyester fiber content, for example, must meet our standards for the particular fabric construction in question. And all performance claims must be fully substantiated by scientific test. The same regulations apply to converters for finished goods.

But even that isn't enough for Vycron!

The Vycron fabrics in the end-use products themselves... apparel, home furnishings, industrial goods... must meet control standards before they can be identified by the Vycron name. Moreover, the United States Testing Company, Inc., will purchase these products on the open market for check-testing on a regular program basis, as long as they continue to feature the Vycron name.

That, we believe, is a quality control program that will protect the trade from mill to retailer... protect the consumer... and safeguard the reputation of Vycron as the most advanced polyester fiber in America.

STRENGTH — Vycron's general superiority in strength means better loom performance, makes possible lighter, sheerer, more serviceable fabrics and garments.

DRAPING QUALITIES — Vycron's soft, pliant touch, can produce a new standard of suppleness, drapeability, and luxury-of-hand in fabrics made with polyester fiber.

Vycron Polyester... America's Most Advanced Self-Care Fiber

BEAUNIT MILLS, INC.

Fibers Division

261 Fifth Ave., New York 16, N.Y.

Plant: Elizabethton, Tennessee

★Reg. applied for

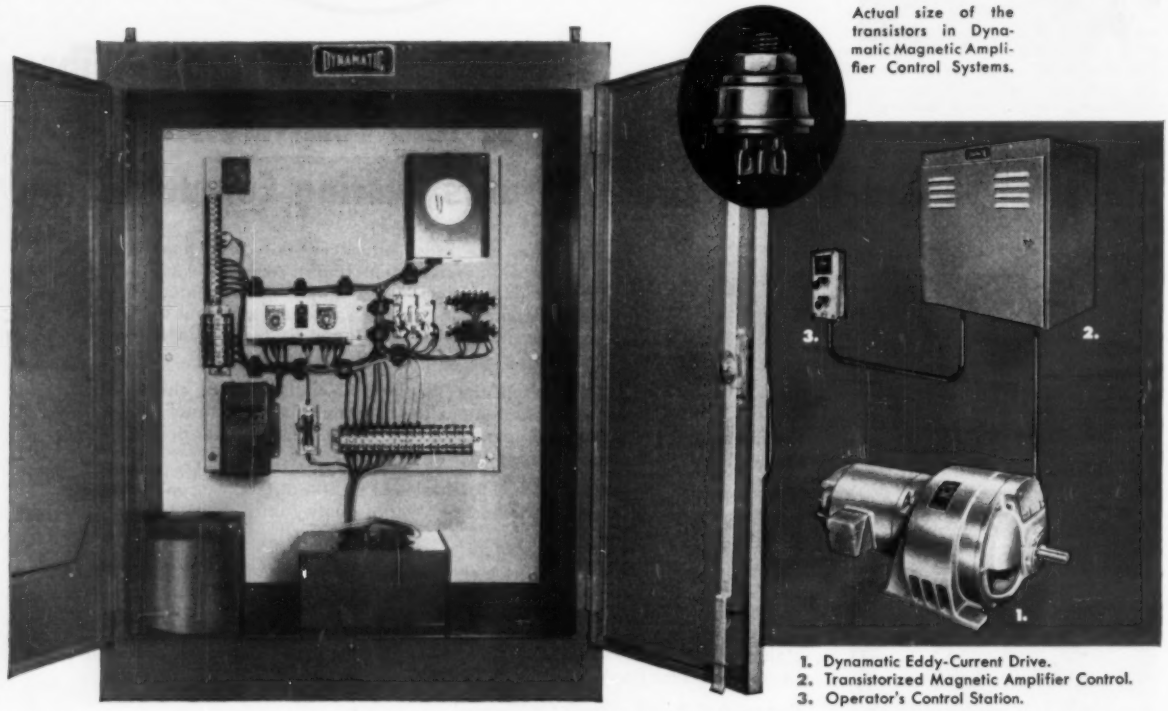
CIRCLE 155 ON READER SERVICE CARD

NEW RELIABILITY!

DYNAMATIC®

MAGNETIC AMPLIFIER (TRANSISTORIZED) CONTROL SYSTEMS

for Eddy-Current Rotating Equipment



Actual size of the transistors in Dynamatic Magnetic Amplifier Control Systems.

1. Dynamatic Eddy-Current Drive.
2. Transistorized Magnetic Amplifier Control.
3. Operator's Control Station.

DYNAMATIC Transistorized Magnetic Amplifier Control Systems are based on a new principle using rugged electrical components designed to provide many times the life of components used in electronic speed control systems. Transistors, reactors, and silicon rectifiers take the place of vacuum tubes; there are no wearing parts to require maintenance, adjustment, or replacement. These transistorized controls are ideal for installation in remote areas and for unattended operation.

Used in combination with Dynamatic Eddy-Current Drives, Transistorized Magnetic Amplifier Controls provide infinite speed adjustment and accurate control for almost any application from five through 10,000 horsepower. Three essential components—drive, push-button station, and magnetic amplifier control—make up the Dynamatic Drive Package, which operates on alternating current. Standard control features include constant speed regulation, infinite speed adjustment, on-off clutch control, and jogging. Special features may be easily added to standard controls to meet the requirements of individual applications.

Dynamatic Transistorized Magnetic Amplifier Control Systems provide a high degree of accuracy and versatility—and are practically maintenance-free.

EATON® *Send for New Illustrated Bulletin Describing Circuitry, Construction, and Operation.*

EATON

DYNAMATIC DIVISION
MANUFACTURING COMPANY
3307 FOURTEENTH AVENUE • KENOSHA, WISCONSIN

Size-Making System

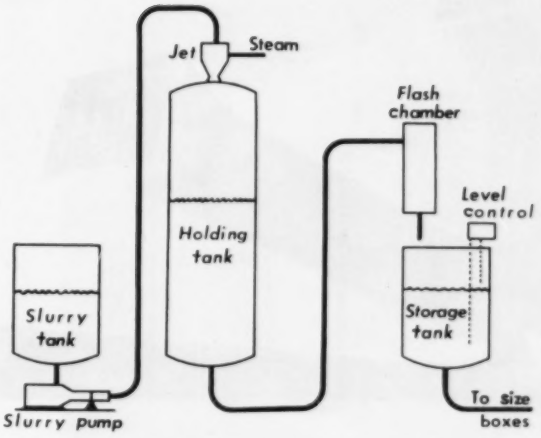
A system, High-Temperature Converter, for preparing warp size from unmodified corn starch in a continuous operation has been developed by A. E. Staley Mfg. Co., Industrial Sales Dept., Decatur, Ill. It modifies the starch paste to a noncongealing size of reduced viscosity to economically obtain a size of the desired fluidity with excellent film-forming properties.

The system covers all factors of size making, starting with the bagged starch entering the mill and ending with the uninterrupted flow of size to the slasher size boxes. The delivered warp size is said to be highly uniform in solids concentration, viscosity, degree of conversion, other starch properties, and its blend with size compounds. The system starts and stops itself automatically and cleans itself out after each stoppage without any dilution or other change in the finished size.

In functions, continuous rapid gelatinization of starch in slurry form with high-pressure steam is followed by retention of hot-paste starch in a vessel to convert it. All variables including slurry pressure and flow, steam pressure, conversion temperature, and conversion holding time are automatically controlled for uniform and reproducible results.

The converter has an average slurry capacity of 4 gals. per min., which is the most practicable for small- and medium-size mills. For a larger mill, more than one converter is recommended.

The manufacturer says it is offering the system to mills on a royalty-free basis at the actual cost of manufacturing the equipment.



Basic elements in the accompanying figure show the regular lines of starch flow during operation. Through the slurry pump, the converter feeds slurry at a constant rate to the jet cooker. There the slurry is met by a high-pressure jet of steam that mixes completely with it and rapidly heats it to a high temperature. Pasting of the starch begins almost instantaneously.

The hot starch passes directly into the holding tank, where additional steam maintains a controlled pressure and temperature. The starch is modified or converted as it follows a slow downward path within the holding tank. Since the flow rate is constant, all starch entering the tank is retained for an equal period of time; and since retention time determines the degree of conversion, all starch is uniformly converted.

The converted starch paste is discharged into a flash chamber, where the pressure is reduced to atmospheric conditions and the temperature is reduced to the boiling point. Then the product passes to a storage tank from which it is fed to the size boxes. The storage tank is equipped with high- and low-level controls that regulate the flow of slurry to the converter; the low-level control starts it and the high-level control stops it.

However, when the latter control stops the flow of slurry, the converter is not completely shut down in the usual sense: the remaining starch in the holding tank is first discharged and then the converter goes into a stand-by phase. While it is on stand-by, steam pressure is maintained in the holding tank and the holding tank is kept hot and ready for instant operation.

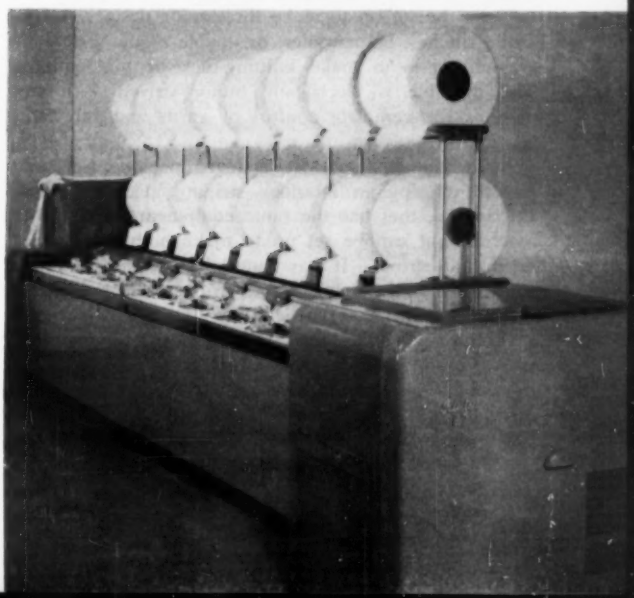
(Circle T-1 on Reader-Service Card)

Cotton Comber

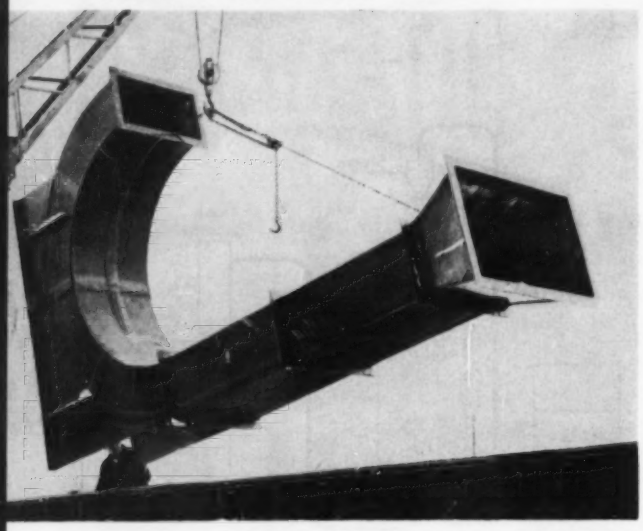
An improved comber with oscillating nippers that run up to 180 nips per minute has been announced by American Rieter Co., Inc., Box 777, West Caldwell, N. J.

Called Model E7, the comber has eight heads and produces 61 lbs. per hr. The machine has fewer component parts than other combers; so setting and control are easier. A forward or backward feed permits removal of 5 to 25% noils.

Other features include pneumatic top-roll weighting, continuous lap feed with tension compensation, detaching and drafting rolls with spiral flutings, antifriction bearings at vital points, dustproof gears, and a 3-hp. motor. **(Circle T-2 on Reader-Service Card)**



Glass-Fiber-and-Resin J-Boxes



J-boxes made of glass fiber impregnated with resin have been marketed by du Verre, Inc., Arcade, N. Y.

The units are available in any wanted size or shape and provide corrosionproof equipment that is light and strong. The J-boxes can be supplied as components that are assembled at point of use to form smooth, virtually one-piece units free of gaskets or protruding joints. **(Circle T-3 on Reader-Service Card)**

Three Knitting Machines

A circular knitting machine, Terrot Jacquard Model RMR, for knitting underwear and outerwear has been announced by Speizman Knitting Machine Corp., 508-14 W. Fifth St., Charlotte 1, N. C. The machine has 24 feeds, is 30 ins. in diameter, and is 16 by 16 cut.

It can be set up to make three-color designs, special waffle stitches, piqué-rodier, or double piqué. The cams are adjustable to make knitting-tuck or miss-patterns. The machine is electrically motor driven with stop motions for complete control of yarns and fabrics at all points.

In addition to the RMR jacquard machine, Speizman is also offering an interlock striping machine, Terrot IM Special, that has the same equipment as the RMR machine but can be set up to make both vertical and horizontal stripes. It has four-color striping units for four-color selective horizontal striping attachments. It is 30 ins. in diameter and is 20 by 20 cut.

A third machine, the Terrot Model-RH underwear ribber, produces underwear at high speed. For example, the 16-in. 24-feed machine runs 100 yds. per hr. on 30s yarn and is expected to average 80 yds. per hr. in mill production. **(Circle T-4 on Reader-Service Card)**

Rubber-Thread Machine

A rubber-thread covering machine that has a spindle speed ranging up to 16,000 rpm. has been announced by Schaffhouse Knitting Machine Works Ltd., Schaffhouse, Switzerland.

Bare rubber yarn is fed from cones to a positive-drive feed wheel; no flyers are used. Tension is controlled by changing gear wheels, elongation is controlled by a speed variation, and alterations are made steplessly with the aid of a speed indicator while the machine is running.

Covering-yarn bobbin tubes are 3.149 ins. long, and take-up bobbin tubes are 5.511 ins. long. The 40-spindle machine is slightly less than 18½ ft. long and 2½ ft. wide.

U. S. and Canadian distributor is Robert Reiner, Inc., Weehawken, N. J. **(Circle T-5 on Reader-Service Card)**

Dust Collector

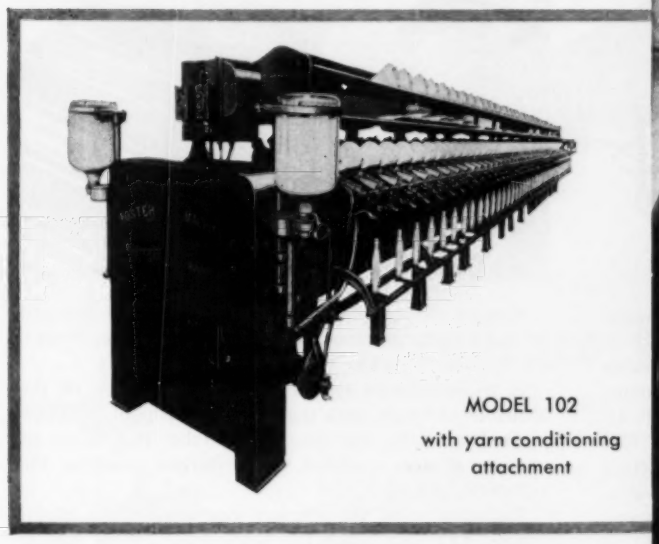
A suction cleaner and dust collector that returns clean air to the spinning room without creating drafts has been announced by Sulzer Bros. Ltd., Winterthur, Switzerland.

Called Filex Fine Filter, the unit essentially consists of a long fine-mesh bag or hose stretched above the frame creel and a filter on the discharge side of the fan.

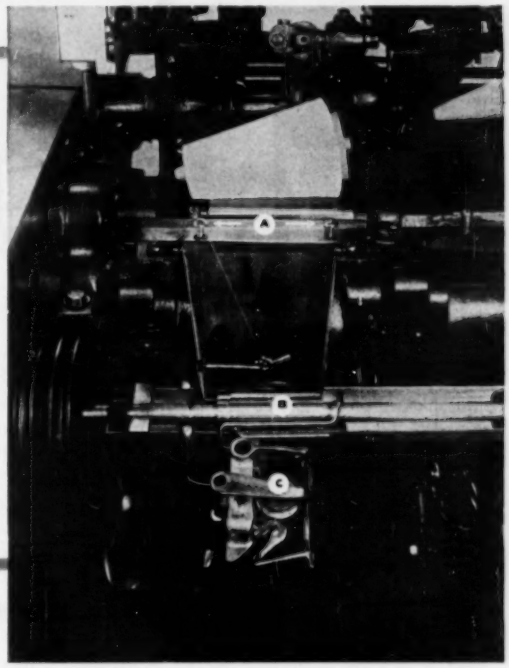
Lint is collected in a collector box; and the air is returned to the room at low speed through the fabric hose, which takes out the remaining dust. **(Circle T-6 on Reader-Service Card)**

FOSTER MODEL 102

. . . For Backwinding Bulk, Stretch and Texturized Yarns



MODEL 102
with yarn conditioning attachment

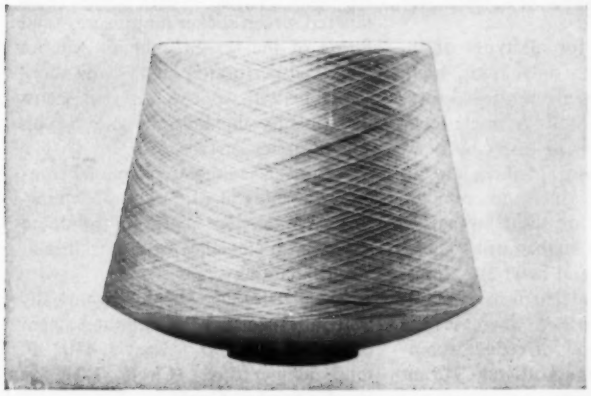


Mushroom buttons (A), moistening attachment (B) and tension attachment (C) on Model 102.

An Outstanding Example of This Machine's

FLEXIBILITY

For many years the Foster Model 102 has been widely accepted for the winding of all types and counts of spun yarns, because of its flexibility, or adaptability, including adjustable angle of wind and adjustable taper. Once again this reputation is confirmed by the machine's recent economical adaptation to the winding of bulk, stretch and texturized yarns.



142-9 Cone of Textralized® yarn wound on Model 102.

In addition to flexibility the Model 102 offers the following: —

QUALITY CONES. The increased taper reduces yarn drag and equalizes tension at all cone diameters. The convex base prevents "nipitis". Highly efficient slub catchers automatically inspect yarn. Ribbon breaker prevents ribbon wind. Idler shell on winding drum prevents chafing of yarn.

ECONOMY. Doubles production and reduces operating costs ⅓, as compared with obsolete machines, due to high speed, self threading tension device, easy donning and doffing and empty bobbin conveyor discharging into standard size truck. Repair costs as low as $10.00 per year per 100 spindles. Simple adjustments which any competent fixer can make.

Bulletin A-95-A on request

FOSTER MACHINE COMPANY

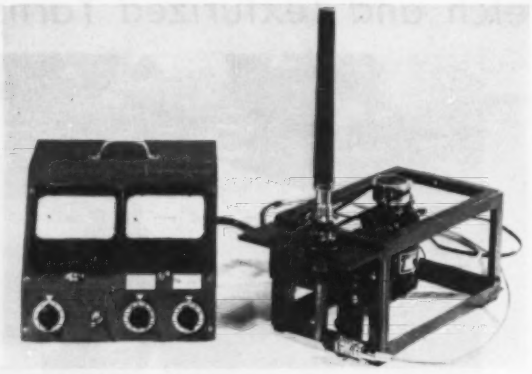
A Yarn Winder for Every Purpose

ATMA
American Textile Machinery Exhibition-International
Parade of Progress
ATLANTIC CITY, U.S.A. MAY 23-27, 1960

Westfield, Massachusetts, U.S.A.
Southern Office — Johnston Bldg., Charlotte, N. C. • Canadian Representative — Ross Whitehead & Co., Ltd., 2015 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ontario • European Representative— Muschamp Textile Machinery (Sales) Limited, Elder Works, Wellington Road, Ashton under Lyne, Lancashire, England.

CIRCLE 159 ON READER SERVICE CARD

Spindle Tester



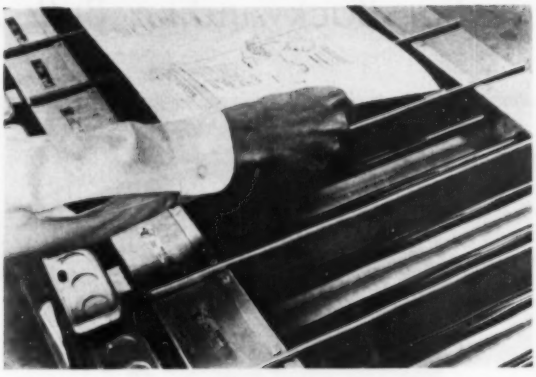
A portable tester that determines vibration in micro-amperes caused by unbalanced spindles and bobbins and shows power consumption required to drive spindles at regulated speeds under various operating conditions has been announced by General Enterprises, Inc., P. O. Box 3274, Greenville, S. C.

Spindles and bobbins can be tested under different methods of balloon control and different yarn constructions, oil viscosity, windage, package weights, speed levels, and balanced or unbalanced loads.

Advantages claimed are:
Isolated base-rail conditions.
Spindle and bobbin are tested as a unit.
Magnetic signal pickups permit portability.
Field calibration in grain-inches of unbalance.
Operators can visualize critical conditions.

(Circle T-7 on Reader-Service Card)

Radiant Heater



Heating elements enclosed in silica glass are featured in radiant heaters marketed by Corning Glass Works, Corning, N. Y., under the Vycor brand.

A triple-reflector system directs 85 to 90% of the available radiation onto the work. A strip of platinum is fire-bonded to one side of the tube; two layers of aluminized steel insulated with Fiberglas comprise the reflective housing.

Radiation is in the efficient long-wave range of infrared. The units reach full heating capacity of 800 to 850° F. within 3 mins. of switch-on and consume 20 w. of electricity per square inch of working surface. The heater causes less than 10% power surge when turned on, which permits switchgear rating no higher than that of the heater. **(Circle T-9 on Reader-Service Card)**

Automatic Drain Trap

An automatic drain trap for compressed-air lines to machines and air equipment has been announced by Perfecting Service Co., 332 Atando Ave., Charlotte 6, N. C. The small lightweight trap automatically discharges condensate and oil as they are collected. A large-size orifice has increased the discharge capacity 350% over the company's older traps and permits a discharge of 60 gals. per hr. A blowoff valve provides for periodic removal of accumulated rust and residue. Both the orifice and valve seat are self-cleaning.

This design is for all types of installations since it's only 7 ins. high, has an over-all diameter of 4⅝ ins., and weighs only 2 lbs. A single lock-ring can be unscrewed easily by hand to disassemble the trap; there are no bolts, nuts, or washers to remove. Standard O-rings are used instead of special gaskets or rubber disks.

The trap body and bowl are aluminum. The valve mechanism is stainless steel and brass to increase the life of the trap and to reduce maintenance to a minimum. **(Circle T-8 on Reader-Service Card)**

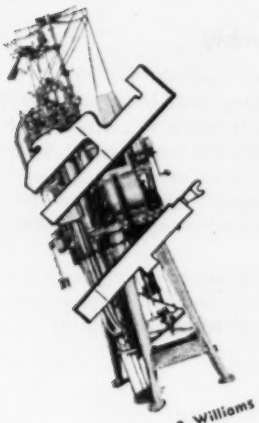
Improved Pipeline Strainer

An addition to its line of self-cleaning pipeline strainers has been announced by Sarco Co., Inc., 635 Madison Ave., New York 22, N. Y. The improved strainer, Type BT, is in sizes from ¼ in. through 3 ins.

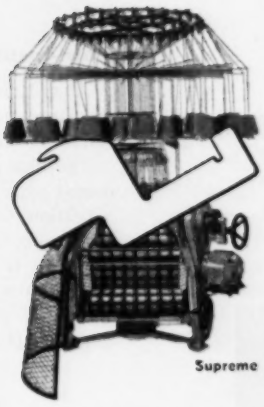
Features are: high-strength construction of the bronze body, long tapered screen socket that insures tight fitting of the screen cylinder without buckling, perforated heavy-gauge construction with spot-welded lap seams that insure maximum rigidity with smooth inner surfaces.

A built-in sediment collection chamber with integral cap and a 45° blow-down connection angle contribute to the over-all efficiency of the strainer in all installations.

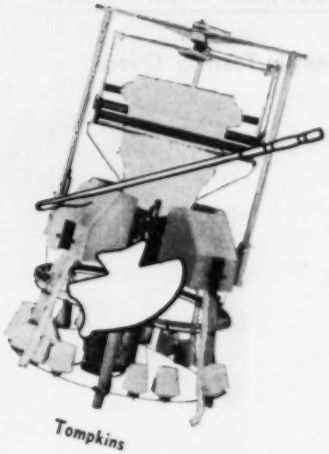
Every strainer is hydrostatically tested and is rated for saturated steam or liquids to 250 psi. and 450° F. total temperature. **(Circle T-10 on Reader-Service Card)**



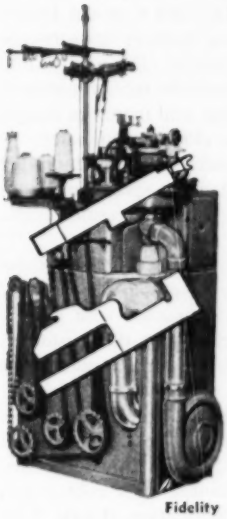
Scott & Williams



Supreme



Tompkins



Fidelity

Excellence Doesn't "Happen" — It is *PRODUCED*

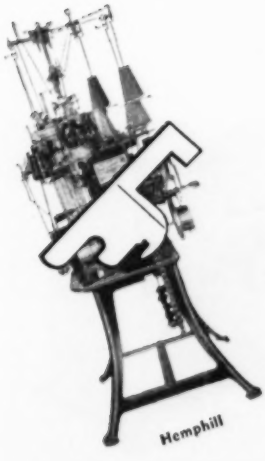
Here at IVES, we never leave anything to chance. For 89 years, the finest steel, expert craftsmanship and infinite care have gone into the manufacture of every needle and knitting machine part that has left this plant.

That is why IVES' products have always been known for their excellence in design, workmanship, and wearability.

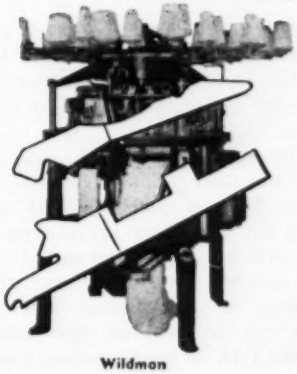
IVES' replacement parts are tailored to fit *exactly* the machines for which they are intended:

Supreme • Fidelity • Tompkins • Kidde
Cooper • Brinton • Wildman • Crane
Banner • Scott & Williams • Bentley • Reiner

THE LOYAL T. IVES COMPANY, INC.
NEW BRUNSWICK, N.J.



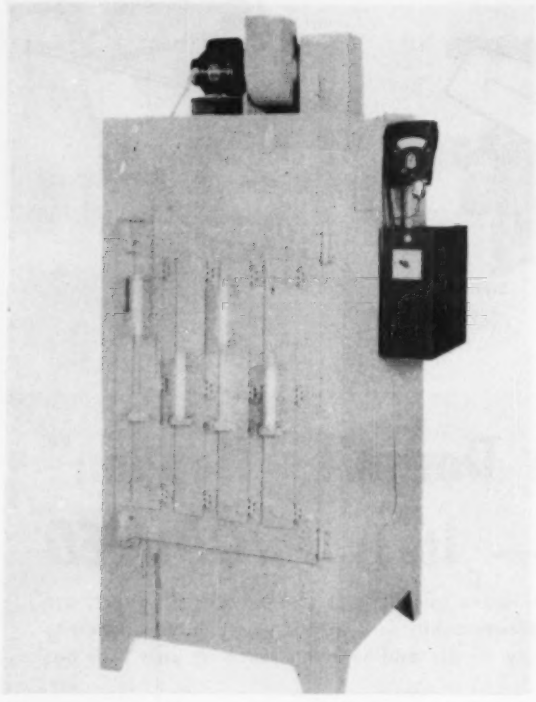
Hemphill



Wildman

Bentley

Textile-Testing Oven



Resin curing, color development, and moisture-content tests can be carried out in a temperature-controlled oven developed by Despatch Oven Co., 611 S. E. 8th St., Minneapolis, Minn.

Electrical heating elements produce temperatures up to 450° F.

Heat is distributed evenly to give even treatment over all sample surfaces. Individual doors permit insertion and removal of samples, which may be mounted on pin-frame racks. Work-chamber dimensions are 24 ins. wide, 24 ins. deep, and 36 ins. high. **(Circle T-11 on Reader-Service Card)**

Yarn-Inspector Assembly

A C-2 two-bar guide assembly for the B-3 yarn inspector used at beaming has been announced by Lindly & Co., Inc., 248 Herricks Rd., Mineola, N. Y.

The change-over permits the use of a 1¼-in. unsupported yarn sheet at the beam instead of a 6-in. sheet. Vibration caused by tension variations from the creel are reduced, more sensitive settings are possible, and threading is easier.

Operators can be trained to use the modified yarn inspector in a short period of time. Little maintenance is required. **(Circle T-13 on Reader-Service Card)**

Loom-Temple Thread Cutter

Draper Corp., Hopedale, Mass., has announced that its scissors-type thread cutter for loom temples initially available for X-2 looms is now available for most popular Draper temple constructions for X, X-2, XD, XP, XP Special, XP-2, L, O, XL, XK, and E-model looms.

This new temple thread cutter features scissors-type upper and lower thread-cutting knives. The upper knife assembly is mounted on a replaceable rubber torsional bearing that requires no lubrication, and therefore danger of temple lubricants' staining the cloth is eliminated.

The scissor-type cutter eliminates parts used on the company's older temples: thread-cutter spring and conventional thread cutter and top end. As a result, temple wear and maintenance costs are reduced.

Another advantage with the new cutter is that filling-yarn ends are cut shorter after bobbin transfers.

The cutter knives are regularly finished with a rust-resistant finish; but when specified by the customer, they are furnished with a satin-finish chrome plating for maximum rust resistance and a more-durable finish.

The Draper No. 3 Selvage Post Attachment that gives better selvages on many weaves can be applied to all scissors-type temples except No. 532 for E-model looms. This post attachment is also mounted on a rubber torsional bearing that requires no lubrication. **(Circle T-14 on Reader-Service Card)**

Variable-Speed V-Belt Drive

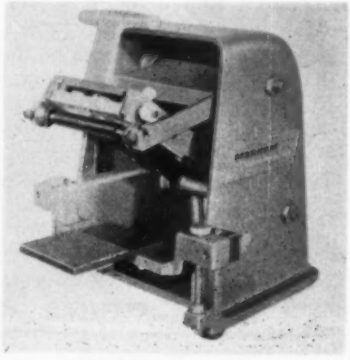
A vibrationless variable-speed V-belt drive has been announced by Allis-Chalmers Mfg. Co., Box 512, Milwaukee, Wis. The pitch diameter of the sheaves can be altered.

There's a stationary control for infrequent speed changes when the sheave is stopped, and there's a motion control for repeated speed changes while the drive is in motion. Standard-range sheaves have speed variations to 196%; wide-range sheaves provide variations to 400%. **(Circle T-12 on Reader-Service Card)**

Small-Lot Imprinter

Short runs of tickets or labels can be economically imprinted with the Model 135A Companion machine announced by Markem Machine Co., Keene 73, N. H.

The lightweight portable machine uses the same printing elements as larger Markem equipment and will mark flat, curved, or irregular package surfaces. Imprints up to 2x3 ins. are possible. Rubber plates, zinc etchings, or quick-change type inserts can be used on this model. **(Circle T-15 on Reader-Service Card)**



KEY TO MASS MARKETS: AUTOMATION

The big new world of self-selection shopping calls for packages which can be machine-formed and sealed at high speeds. CCA cartons, custom-created for Carter, Interwoven, Hanes, Kayser Roth and other brands, meet mass market volume demands, thanks to high-speed forming equipment especially designed through CCA's Machinery Development Department. In addition to in-plant economies, provided by automation, CCA cartons prevent losses through soilage of merchandise and pilferage. They overcome stacking, racking and inventory control problems. And they provide product visibility and appeal.

CCA

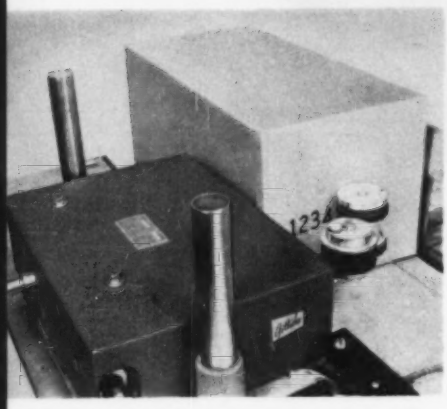
CONTAINER CORPORATION OF AMERICA

Main Offices: Chicago 3, Illinois

Plants and offices located for best service to the textile industry: Boston, New York, Philadelphia, Greensboro, Atlanta, Chattanooga

CIRCLE 163 ON READER SERVICE CARD 163

Carton Imprinter



Code numbers or other identifying marks can be printed on the rear ends of conveyor-moved cartons by a machine developed by Adolph Gottscho, Inc., Hillside 5, N. J.

The imprinter, Model 210 Rolacorder, carries a week's supply of ink in the font and is of compact design that requires little space for installation. **(Circle T-16 on Reader-Service Card)**

Electronic Air Cleaners

Precipitron electronic air cleaners that can be installed as an integral part of air-distributing units have been announced by Westinghouse Electric Corp. The cleaners match the style and dimensions of Westinghouse air-distributing units can be assembled in-line so that they become part of an integrated system for central air conditioning, heating, and ventilating.

The electronic air cleaners are designed for application at conventional coil-face velocities between 350 and 600 ft. per min. for capacities from 1,950 to 28,800 cu. ft. per min. In-line assembly makes the over-all system more compact since the cleaners are only 25½ ins. deep in the direction of the air flow.

The collector plates can be washed either manually or automatically by a moving nozzle without entering the ductwork. With the use of Dustik, a cold-water-soluble adhesive, hot water is not necessary for the washing operation. **(Circle T-17 on Reader-Service Card)**

Knitted-Garment Undertrimmer

An undertrimmer for attaching elastic to lightweight nylon, rayon, cotton, or wool knitted garments has been developed by William C. Cremer & Son, 2850 Leiz's Bridge Rd., Muehlenberg Park, Reading, Pa.

The attachment improves the appearance of the finished garment without lowering production. The trimmed edge is said to be as clean with preclosed elastic as with continuous elastic.

The trimmer is driven off the machine stitch-regulating eccentric. The complete device includes a special foot and feed that guide the elastic and hold the fabric. This arrangement eliminates manually guiding the edge for close trimming; it is necessary to guide only the material.

In addition to higher-quality products with the undertrimmer, a needle-positioner-and-inching device increases production by eliminating the manual operation of reaching for the handwheel to remove a garment. The needle positioner was developed by American Safety Table Co., Inc., Reading, Pa. **(Circle T-18 on Reader-Service Card)**

Conveyor Overload Control

A conveyor overload-safety control is being distributed by Conveyor Div., American MonoRail Co., Fourth & Franklin Sts., Tipp City, Ohio. The control is so responsive that one man can stop the conveyor by pulling a trolley hanger, if such a sensitive adjustment is desired.

This Tipp-Tronic control will be sold as a component of the company's two conveyor systems; Chainless and Cable-Way.

The control's ammeter visually measures the conveyor-line pull by monitoring the current drawn by the drive motor or motors. The safety shut-off point on the ammeter is determined by operating a properly lubricated conveyor under normal load and setting the limit pointer slightly above the normal reading. If the line pull exceeds this limit, the conveyor motor is shut off instantly. The control is self-compensating for motor-starting surges.

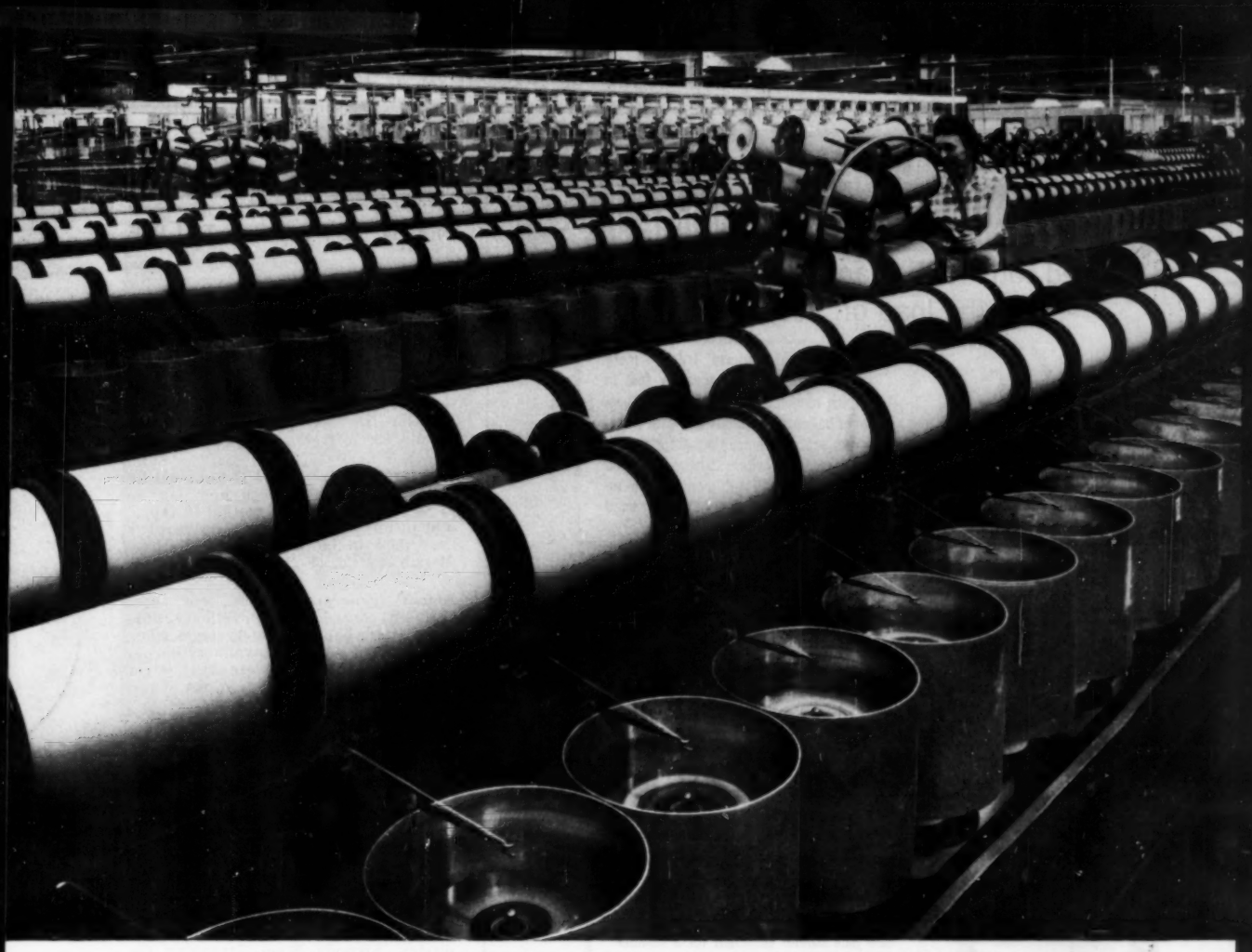
Advantages of the safety control are: (1) greater safety for employees, (2) protection against underlubrication, (3) prevention of damage to the conveyor or drive from hanging up, (4) warning of broken or jammed trolleys, and (5) protection of drive motors. **(Circle T-19 on Reader-Service Card)**

Combination Regulator-Filter

A combination regulator-filter, PSC, for most types of compressed-air lines is being sold by Perfecting Service Co., 332 Atando Ave., Charlotte 6, N. C. This one-piece-housing combination regulates and filters simultaneously.

The regulator is designed on the balanced-piston principle. The filter has dual-filtering elements and is made so that interchangeable cartridges can be replaced without tools and without removing the filter from the air line. **(Circle T-20 on Reader-Service Card)**

CONTINUED ON PAGE 178



Large packages of Tyrex viscose tire cord revolve on these cord twisting machines in the Painesville, Ohio, plant of Industrial Rayon Corporation. Gulfspin keeps the spindles running smoothly.

Large packages rotate trouble-free with Gulfspin—

GULF MAKES THINGS RUN BETTER!

In the manufacture of its highly successful new Tyrex* viscose tire cord, Industrial Rayon Corporation, Painesville, Ohio, depends on Gulfspin for trouble-free operation of their spindles. Thousands of twister spindles operate 24 hours a day, 365 days a year!

Industrial Rayon engineers report that Gulfspin 41—their spindle lubricant for over 5 years—keeps their busy spindles running clean. Maintenance checks show the spindles to be free from gum, sludge and rust.

May we have the opportunity to demonstrate how Gulfspin can improve *your* spindle lubrication—to help you protect against harmful deposits, minimize problems of heat and vibration, conserve power.

Just call your nearest Gulf office and ask a Gulf Sales Engineer to contact you. Or, mail the coupon for a booklet on Gulfspin.

*Tyrex is a certification mark of Tyrex Inc. for viscose tire yarn and cord.

GULF

GULF OIL CORPORATION
Dept. DM, Gulf Building
Pittsburgh 30, Pa.

Send booklet on Gulfspin.

Name_____

Title_____

Company_____

Address_____

City_____ Zone____ State_____

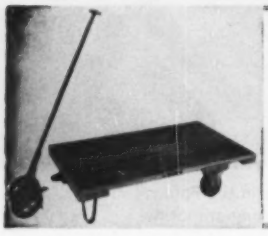
CIRCLE 165 ON READER SERVICE CARD

Fairbanks 5 Cost-Cutters For Your Light, Bulky Materials Handling Jobs

rugged construction and smoother operation take the load off your mind . . .

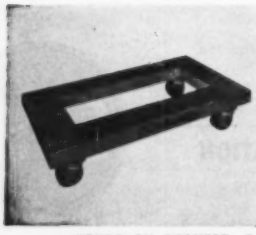
9215-S General Purpose Truck — more widely regarded as a **necessary tool** in shipping rooms, stores, warehouses, passenger baggage terminals and with transfer and express companies — for use on delivery trucks—where it is unsurpassed for handling small lot merchandise including round objects. Steel framed construction.

A-1448 Utility Truck — very popular in stores, offices, institutions, shipping rooms and factories for carrying small lot merchandise and widely used in bottling and beverage plants and on beverage delivery trucks for moving case lots. All steel welded construction, fitted with stair climber.



Lift Jack Platform Trucks — perfect answers for minimum cost temporary storage of raw material, parts, semi-finished goods or finished pieces. Jack handle has no moving parts — engages and disengages semi-live skid simply and quickly. One jack handle sufficient for a number of platforms.

"Bantamweight" Platform Trucks — outstanding values for lightweight materials handling from low initial cost through minimum operating expense. Readily adaptable to continuous conveyor systems. Light and strong construction, very mobile on Fairbanks "Lockweld" Double Ball Race Swivel Casters and matching rigid casters.



T-1114 Dollies — providing greatest maneuverability for bulky merchandise on Fairbanks "Lockweld" Steel **Double Ball Race** Swivel Casters. Very popular trucks with furniture movers, storage warehousemen and truckers.

YOURS ON REQUEST: Fairbanks Truck Catalog, complete with illustrations and specifications describing Fairbanks Trucks.

THE **Fairbanks** COMPANY
393 LAFAYETTE STREET, NEW YORK 3, NEW YORK
BRANCHES: NEW YORK 3
BOSTON 10, PITTSBURGH 22, ROME, GEORGIA
VALVES • TRUCKS • CASTERS • WHEELS • DART & "PIC" UNIONS

NEW LITERATURE

TEXTILE MACHINERY & AUXILIARY EQUIPMENT

Conical rings—That permit faster operation, produce cleaner yarn, reduce ends down, use less oil, and increase traveler life are described in folder from Herr Mfg. Co., Inc. (F-1)

Selvage uncurler—That is powered by the motion of the cloth and can be used with any type or weight of fabric and in any direction of cloth travel is described in bulletin from Mt. Hope Machinery Co. (F-2)

Steam generators—That cut cost through controlled high-velocity fluid circulation, balanced feed, combustion-gas velocity, and a high-velocity burner are described in bulletin that gives specifications and applications. Clayton Mfg. Co. (F-3)

Carding and spinning machinery—Exhibited at the Milan exhibition are described in booklet that illustrates and gives specifications of cleaners, cards, drawing frames, combers, roving frames, and spinning frames. Joh. Jacob Rieter & Co. Ltd. (F-4)

Strapping tools—Booklet tells how to save time and effort in steel strapping and describes many ways in which air-power strapping tools are serving industry. Signode Steel Strapping Co. (F-5)

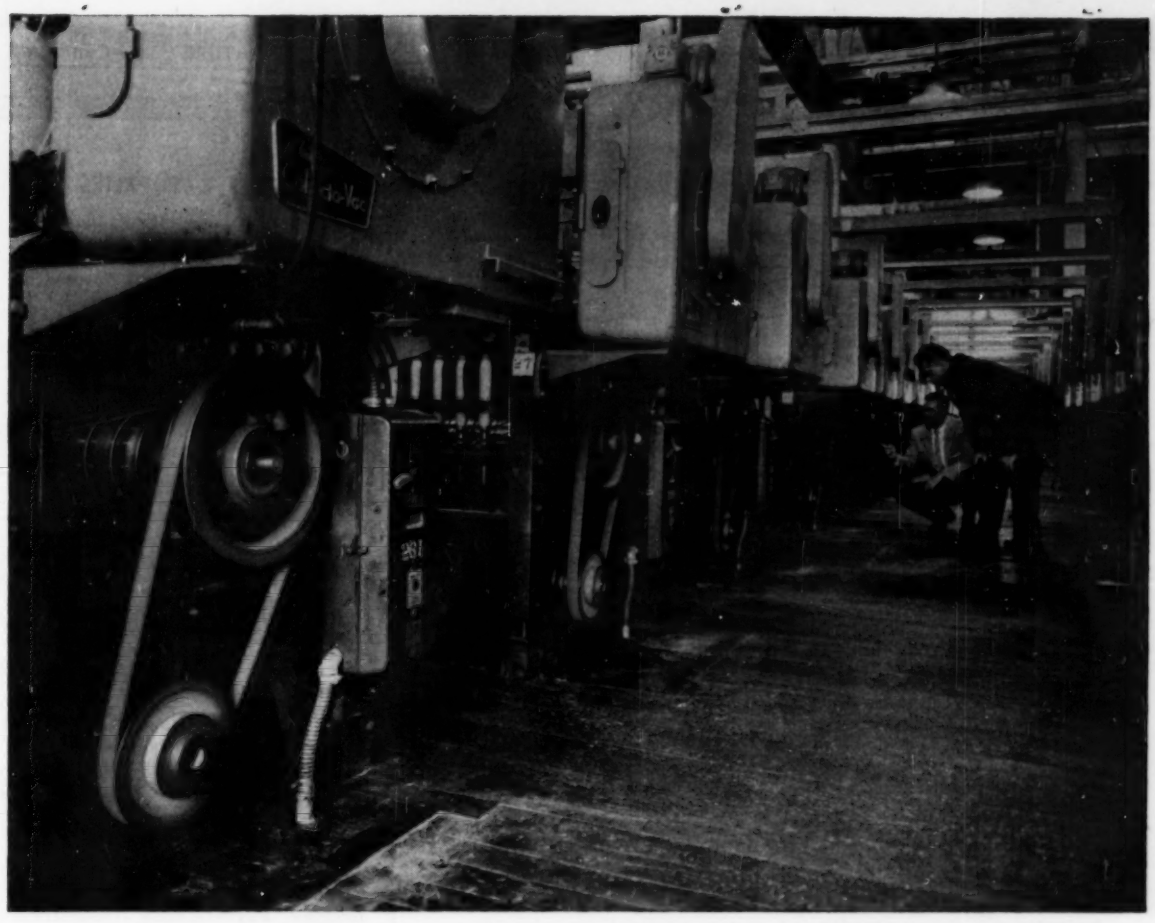
Blind-stitch machines—For hemming, edging, felling, and banding woven and knitted garments and nonapparel applications such as carpets are described in booklet from Singer Sewing Machine Co. (F-6)

Card clothing—That can be wound on 1½-in. to 60-in.-dia. cylinders is described in folder that tells how teeth can be straightened without breaking and why points hold original shape. Proctor & Schwartz, Inc. (F-7)

Card coilers—For can diameters of 14 to 20 ins. and can heights of 36 and 42 ins. are described in illustrated brochure from Southern States Equipment Corps. (F-8)

Combing process—Called Upsheen that upgrades cotton by removing a minimum percentage of fibers at a production rate of 70 to 80 lbs. per hr. is described in a folder designed especially for carded-yarn mills. Saco-Lowell Textile Machinery Div., Saco-Lowell Shops. (F-9)

Vacuum collection system—For collecting lint, fly, and broken ends at spinning frames is described in booklet that tells how the system increases operator efficiency, effects production savings, reduces waste, and provides cleaner working conditions. Bahnson Co. (F-10)



Dayton Variable Speed Drives Help Boost Production at Spinning Mill

"Added convenience alone increased production in our spinning department by 2%," states the superintendent of southern textile mill that's being converted 100% to Dayton Variable Speed Drives.

"When we operated with overhead pulleys, it took several men up to three hours to change pitch on a series of frames. With our Dayton drives, one fixer, using only a wrench, can do as much work in half the time.

"Added safety is another important factor. With the complete drive at floor level, we no longer have to worry about the danger of having a man on a ladder working over heavy machinery that's running at high speed.

"When we're through converting, Dayton Variable Speed Drives will control the speed of all 25,000 spindles in our mill. Believe me, they really pay off both in time saved and in improved yarn quality. With our old system our yarn was never just right. Now, with Dayton Variable Speed Drives, we can adjust front roller speed to the last turn . . . hitting our yarn requirements right on the nose every time.

"Actually, our Dayton Drives are no trouble at all. They never need re-alignment and we've never experienced any problem with fretting corrosion with the Dayton sheave assembly. And, there's just no comparing the longer life and sure-gripping performance of Dayton Variable Speed V-Belts with any other belts."

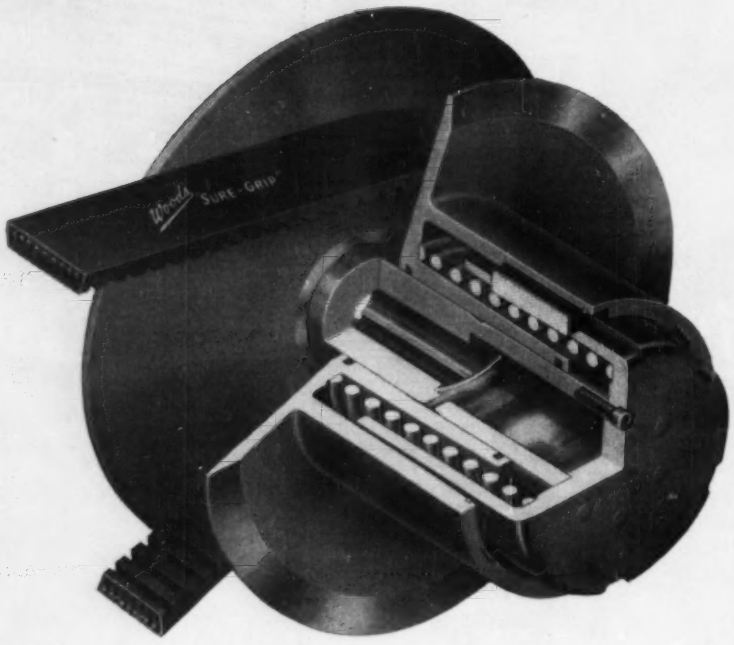
Dayton Industrial Products Co.

Melrose Park, Illinois — *A Division of The Dayton Rubber Company*

World's Largest Manufacturer of V-Belts

Consult the Yellow Pages of your telephone directory for the name of your nearest Dayton Distributor or write Dayton Industrial Products Co., 2001 Janice Ave., Melrose Park, Illinois.

CIRCLE 167 ON READER SERVICE CARD 167



NEW WOOD'S VARIABLE SPEED PULLEYS ACTUALLY ELIMINATE FREEZING, STICKING

Wood's new "MS" Motion Control Pulleys incorporate an entirely new concept of variable speed pulley design. Revolutionary features not only permit accurate and infinite speed adjustment, but completely eliminate fretting corrosion, freezing and sticking. There is no downtime . . . no periodic running through the speed range and, under normal operating conditions, the oil reservoir requires checking only twice a year. These startling advantages are made possible by two exclusive features . . .

NEW RESILIENT KEYS—There are no keys to obstruct the flow of oil around the bearing surfaces. Power is transmitted through a series of torsionally resilient rubber keys which are located outside the bearing surfaces between the sleeve cap and flange.

NEW ROTATIONAL PUMPING ACTION—The continuous rotational pumping action of the flange hub on the sleeve completely re-oils the bearing surfaces with each rotation of the pulley.

New "MS" pulleys can be used with any type of straight face companion pulley. They are accurately balanced, operate in any position, fit both old and new NEMA frame motors. Get all of the facts. Write for bulletin 4101.

Woods

T. B. WOOD'S SONS COMPANY
CHAMBERSBURG, PENNSYLVANIA

ATLANTA • CAMBRIDGE • CHICAGO • CLEVELAND • DALLAS • NEWARK

CHEMICALS & SUPPLIES

Fiber-reactive dyes—Pamphlet gives the shade range of Procion dyes, which have been increased to 26 since 1956, and tells how the reactives can be used to produce shades ranging from pale to deep and covering nearly every part of the spectrum. Arnold, Hoffman & Co., Inc. (F-11)

Vat dye—Circular deals with properties and applications of Indanthrene Corinth B Infra Paste said to be suitable for application on cellulosic textiles in any form by any dyeing method. General Dyestuff Co., Div. of General Aniline & Film Corp. (F-12)

Textile chemicals—Condensed catalog gives physical and chemical properties of alkalis, chlorine compounds, and sulfur compounds. A second publication describes Nialk trichlorethylene used for vapor degreasing and cleaning. Hooker Chemical Corp. (F-13)

Fatty acids—32-p. revised edition of "The Chemistry of Fatty Acids" that gives preparation, characteristics, and applications of 30 fatty acids is available from Armour Industrial Chemical Co. (F-14)

Nylon slashing — Of producer-twist yarn is described in an announcement about the Chemsize method that permits this type of yarn to be slashed and woven without prior winding, uptwisting, and steaming. Chemstrand Corp. (F-15)

Polypropylene—A preliminary technical data bulletin giving physical and chemical properties of the material is available from Avisun Corp. (F-16)

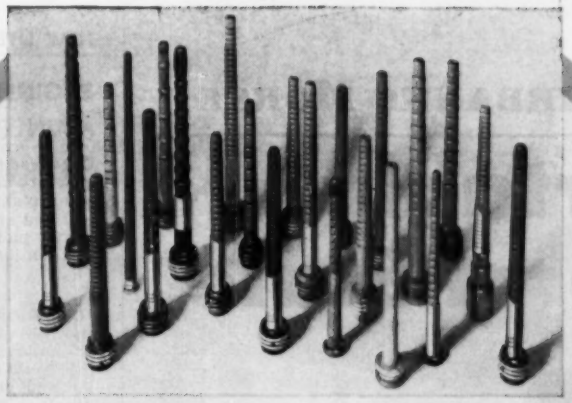
Polyglycols—A 24-p. bulletin gives formula, description, and chemical and physical properties of 40 polyglycols used as intermediates and in end products. Dow Chemical Co. (F-17)

Textile-chemical catalog—Prepared in an easy-to-read format gives a concise description and product classification of textile-finishing compounds sold by Onyx Oil & Chemical Co. (F-18)

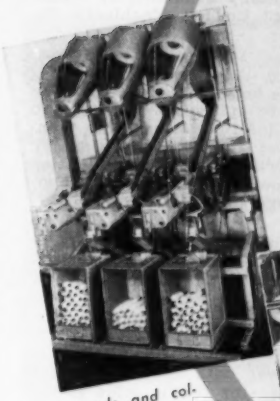
Antistatic finishes for Acrilan—A list of 70 antistatic agents and their methods of application in finishes for Acrilan fabrics is available from Chemstrand Corp. (F-19)

Warp size—For spun man-made-fiber yarns is described in technical data sheet that includes detailed information on properties, range of viscosities, and applications from A. E. Staley Mfg. Co. (F-20)

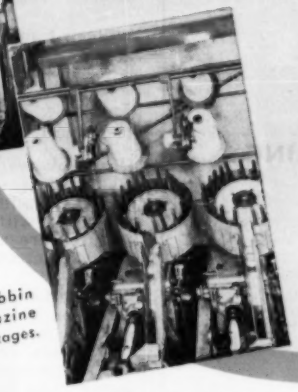
1, 2-butylene oxide—Said to be the first single-isomer product commercially available is described in bulletin that gives the potential utility of the oxide as a stabilizer, textile chemical, solvent, surface-active agent, and fire retardant. Dow Chemical Co. (F-21)



A few of the many types and sizes of filling bobbins that can be profitably run on the Fill-Master Winder.

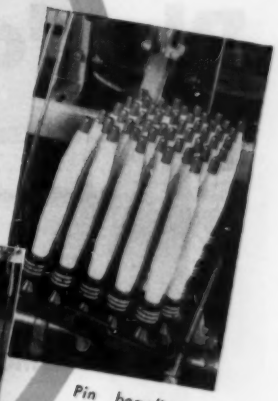


Exhaust hoods and collectors for mills having dust and fly in winding area.



Multi-cell empty bobbin magazine for magazine creeling or single packages.

Packing device for orderly, clean storage of filled bobbins.



Pin boarding arrangement for synthetic yarns.

Only the Whitin-Schweiter FILL-MASTER* Filling Winder

Gives you such Complete FLEXIBILITY and ADAPTABILITY

Whitin-Schweiter Fill-Master Winder with Bobbin Loader*

Flexible . . . . for fully automatic winding of cotton, wool, worsted, synthetics and blends.

Adaptable . . . to a broader range of mill requirements than any other winder thru its complete line of optional accessories (see illustrations)

These are only two of many outstanding advantages, including:

- Machine speeds up to 10,000 R. P. M.
- Speed of individual spindles adjustable
- Bobbins up to 10⅛" • Tail-less bobbins
- Variable layer locking traverse prevents sloughing
- Maintains uniform winding diameters, resulting in more yardage per bobbin

**Trade Mark*

Whitin MACHINE WORKS

WHITINSVILLE, MASS.

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

Manufactured by **WHITIN** *for sale in U. S. A. and Canada and by* **SCHWEITER, LTD., Horgen (Zurich, Switzerland)** *for sale in other countries*

NEW FAIRBANKS-MORSE

Portable Platform Scale

MODERN FUNCTIONAL STYLING

- **reads quickly and clearly under all lighting conditions!**
- **moves easily through narrower aisles!**
- **stays accurate and sensitive under roughest conditions!**

Designed for your most exacting requirements—built for years of heavy-duty use—this new Fairbanks-Morse Model 1124A Portable Platform Scale helps speed your operations through faster, more accurate weighing!

Note the big, clear beam design that promotes quicker reading—the new square weights for easier handling! Check the new concealed wheels, the compact overall width—important for fast handling in congested areas. Notice the absence of check rods, to eliminate binding. From top to bottom this is a handsome, durable scale designed to use—built to last—a worthy successor to the hundreds of thousands of famous Model 1124 Scales proven throughout industry! Capacity 1000 lbs. Write Fairbanks, Morse & Co., 600 South Michigan Avenue, Chicago 5, Illinois, for new Model 1124A Catalog.

See Sweet's Plant Engineering File for full line of F-M Scales.

FAIRBANKS-MORSE

a name worth remembering when you want the BEST

SCALES • PUMPS • DIESEL, DUAL FUEL AND GAS ENGINES • ELECTRIC MOTORS
GENERATORS • COMPRESSORS • MAGNETOS • HOME WATER SYSTEMS

ENGINEERING & MAINTENANCE

Overhead-handling systems—That cut cost are described in 52-p. book covering planning and selection of monorail and crane conveyors. One section shows pictorially a number of textile installations. Louden Machinery Co. (F-22)

"Compressed Air Fundamentals"—Is the title of a booklet that tells how air is compressed and what machinery to use. Other information includes tabular and chart data on amount of air required, cylinder diameters, ratios of compression, and flow of air through orifices. Ingersoll-Rand Co. (F-23)

Window-frame corrosion—Is discussed in a service brochure that contains information about an alloy bonding of zinc to steel that automatically seals itself when scratched. Fenestra, Inc. (F-24)

Heat-reclaimer data sheets — That make it easy for textile mills to exchange preliminary engineering information with the machinery manufacturer are available in chart form from Patterson-Kelley Co., Inc. (F-25)

Air-conditioning problems — Such as corrosion, scale formation, slime, and algae growth are discussed in bulletin that offers concrete suggestions for control through chemical treatment of water. Betz Laboratories, Inc. (F-26)

Motor maintenance—63-p. book entitled "Protective Maintenance of Motors and Generators" contains suggestions for handling everyday electrical problems. Other information includes checklists and standards for classification of parts and supplies. National Electrical Manufacturers Assn. (F-27)

Data conversion chart—For engineers and executives shows at a glance the relationship between inches and centimeters, watts and horsepower, microns and meters, and many other factors. Precision Equipment Co. (F-28)

Engineering ideas—Based on snap-action switch applications are described and illustrated in "How Others Do It" from Micro Switch Div., Minneapolis-Honeywell Regulator Co. (F-29)

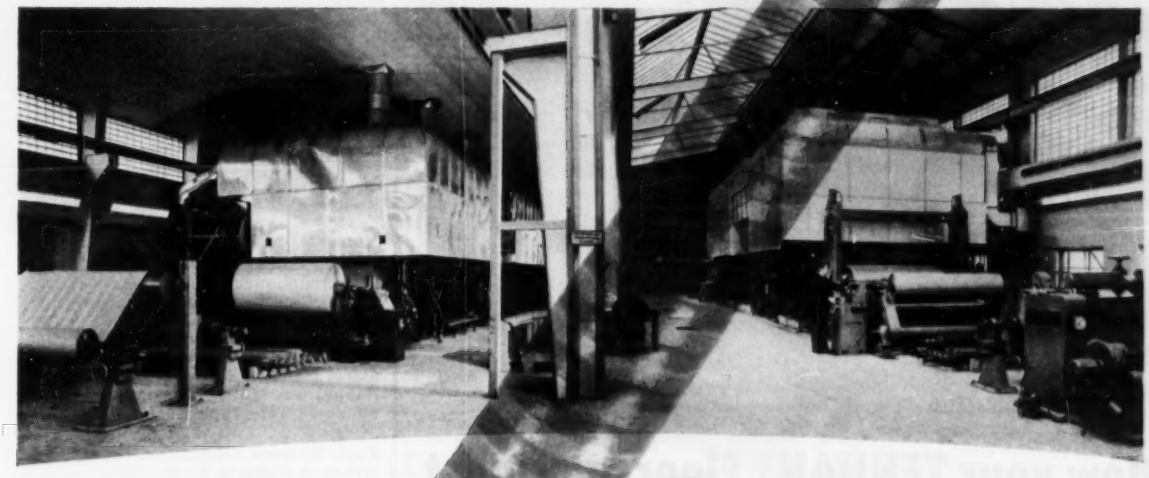
Flexible cushion coupling—That automatically compensates for all combinations of misalignment and end float and absorbs torsional vibration is described in booklet from Dodge Mfg. Co. (F-30)

Textile-machine lubricator—That automatically services up to 73 bearings on X-2, XD, and XP-2 looms is described in illustrated booklet. The system also can be applied to knitting machines. Bijur Lubricating Corp. (F-31)

GENERAL

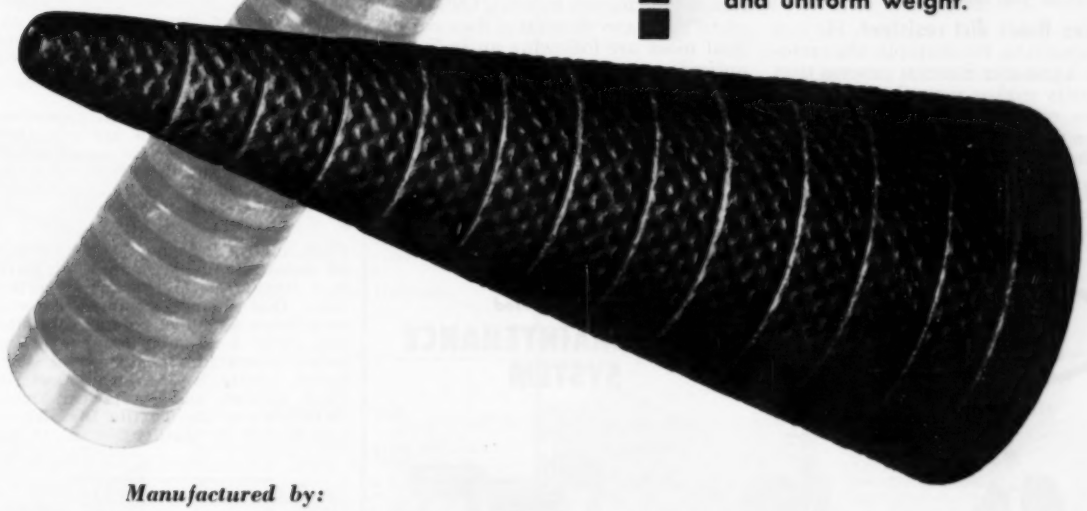
Safety suggestions—Three data sheets

We make our own paper. These huge machines ensure a constant supply of the basic material for Adolff tubes, cones and yarn carriers of all types.



We control every stage of manufacture, from raw material to finished product.

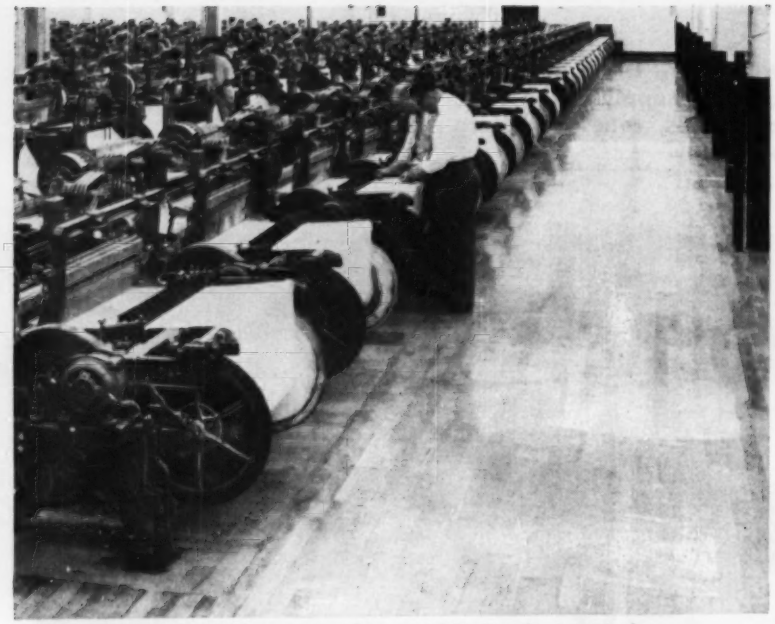
Adolff yarn carriers are internationally famous for their dimensional stability and uniform weight.



Manufactured by:

EMIL ADOLFF • REUTLINGEN, W. GERMANY

U. S. A. Central Organization: Textube Corporation, 695 Summer Street, Stamford, Conn.
Sub-Agents for the South: Watson & Desmond, 220 West Fourth Street, Charlotte, N. C.
Sub-Agents for Canada: Crowther Limited, 212-214 Victoria Ave., Westmount, Montreal, P.Q.



TENNANT-SEALED weave room floors are bright, dirt-resistant, easy to clean.

How your TENNANT Floor Specialist helps you save ⅓ in floor care costs

Would you like your mill to have floors as bright and clean and durable as this? And at an annual cost up to a third less than you're now paying?

Your TENNANT Floor Specialist *can show you how.*

Makes floors dirt resistant. He can demonstrate, for example, the exclusive TENNANT SYSTEM process that actually makes your floors up to 3 times more resistant to dirt. And when they *do* soil, dirt wipes off easily in a fraction of the usual time.

Seal lasts twice as long. Your TENNANT Man will also demonstrate heavy duty floor seals which are *unequalled for durability.* Since they end the need for frequent refinishing, you'll save many gallons of material each year.

Used in 1000 major mills. More than 1000 of America's leading mills are now saving money by using the complete TENNANT SYSTEM of floor care. And most are following an *individualized* program which their TENNANT Man developed to fit their specific needs in each department.

WRITE TODAY *for an analysis of your floor care problem. You may be surprised at the saving you can make.* G. H. Tennant Co., 737M No. Lilac Drive, Minneapolis 22, Minnesota.

TENNANT

The Textile Industry's Most Widely Used

FLOOR MAINTENANCE SYSTEM

Methods

Machines

Materials

FLOOR MAINTENANCE SYSTEMS

CIRCLE 172 ON READER SERVICE CARD

NEW LITERATURE Continued

discuss operating hazards that include falls, electrical shock, fire, and unsanitary conditions. Included is a safety checklist for floor maintenance. Puritan Chemical Co. (F-32)

Fork lift trucks — Booklet describes features of Stream-Liner series of lift trucks that include full vision, direct-view instrument panel, and improvements to reduce driver fatigue. Lifting capacities range from 2,000 to 4,000 lbs. Towmotor Corp. (F-33)

Package-marking equipment — Folder describes machines that can be set up in the plant to mark sizes, stock numbers, and other information on a wide variety of box sizes and shapes, empty or filled bags, and envelopes. Textile & Apparel Div., Markem Machine Co. (F-34)

Intercommunication systems—With 2 to 100 (and over) telephone lines are described in folder that lists many special features such as conference circuits, loud-speaker outlets, and fire-alarm signals. Kellogg Switchboard & Supply Co. Div., International Telephone & Telegraph Corp. (F-35)

Fork lift truck—Specifications and construction features for a 2,000-lb.-capacity truck designed for handling and tiering over rough floors in congested areas are given in booklet from Clark Equipment Co. (F-36)

Warehouse layout—Should the aisles be narrow or wide? The pros and cons of this costly problem are discussed in a brochure from Automatic Transportation Co. (F-37)

Battery-powered floor cleaners—That have both a scrubbing and vacuum action and can clean up to 21,600 sq. ft. of flooring per operating hour are described in bulletin from Finnell System, Inc. (F-38)

Casters and wheels—With capacities up to 15,000 lbs. each are described in 60-p. catalog that also covers nylon-ball casters, spring-mounted casters, pneumatic casters, and many others. Payson, Harris & Reed (F-39)

Cloth quality—Can now be established by following the standards set forth in a Manual of Defects and Imperfections that defines common defects, establishes a "defect points" schedule, and gives a formula for converting defect points into quality level. Published jointly by National Assn. of Shirt, Pajama, and Sportswear Manufacturers and the Textile Div., American Society for Quality Control. (F-40)

POINTERS FOR SUPERVISORS

CONTINUED FROM PAGE 131

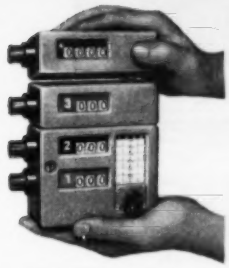
and honey it up to look as if it were not bad. To follow the latter course is to invite doubts about your honesty and sincerity. No need to suggest

It pays to get Veeder-Root COST-COUNTROL all through your mill

From preparation to final inspection, Veeder-Root *Count*rols help modern mills to *Count*rol production and costs . . . with accurate, up-to-the-minute figures on every process.

At the right are the most widely used profit-protectors in the Veeder-Root Textile Line. Let your Veeder-Root representative show you how little it will cost to equip your mill *completely* with these new counters. *Call him in today.*

Remember . . . *Men Who Count* are the men who count the profits.



2-3-4 Pick, Hank, Yardage & Knitting Machine Counters

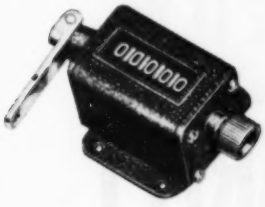
These convertible counters record production separately for each of 2, 3, or 4 shifts, providing a basis for wage payment. Basic 2-shift counter can have 3rd and 4th shift counting units added right in your mill, on the machine, as needed.

Double-Wheel Measuring Counters:

Worm-driven Reset Counter at left registers linear units as material passes under the friction wheels. Medium speed range. Widely used in inspection.

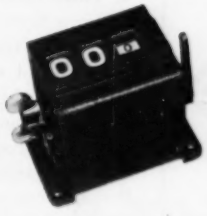
High Speed Reset Double Wheel Counter runs at speeds up to 6,000 rpm or 8,000 cpm.

Resets to zero with finger-flick. Features eye-level reading.



Small Reset Counters

Used on a wide variety of textile machines, including breakers, winders, marking machines, knitting machines and bobbin strippers. Revolution or ratchet types, for speed up to 1,000 counts per minute.



Hosiery Dozens Counter

Used in inspection or on knitting machines. Small figures show single-stocking count. Large figures indicate dozens of pairs up to 100. Hand, foot or machine actuated.

Reset Magnetic Counters

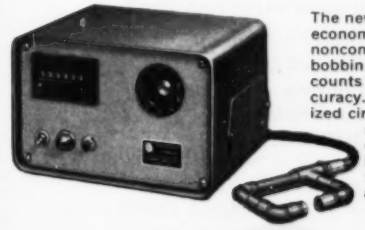
Base mounted or panel mounted. Ruggedly built for speeds up to 1,000 counts per minute. Knob or lock-key reset. Other models for speeds up to 3,000 counts per minute.

Widely used for remote indication.

Loom Cut Meters

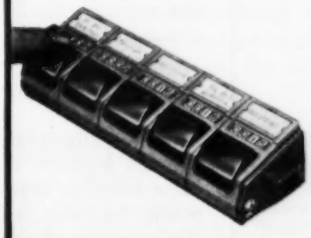
AND PREDETERMINING COUNTERS:

Cut Meters are predetermining counters for looms, for controlling lengths of cloth woven, without cut marks . . . and without over-runs and shortages. Also available are High Speed Predetermining Counters, both geared and ratchet types, to count any preset number of revolutions, strokes, pieces, lengths.



Count/Pak

The new Veeder-Root Count/Pak — an economical device for high velocity, noncontact counting. Ideal for use on bobbin strippers. Speeds up to 2,500 counts per minute with absolute accuracy. Features include a transistorized circuit with photoelectric sensing system, rugged and reliable construction and Veeder-Root instant reset, high speed electric counter for dependability and long life.



Vary-Tally

This modern hand-operated counter, made only by Veeder-Root, is arranged compactly on stands in tiers. Easily portable, it is ideal for order, stock, inventory control, sales and market analysis, payroll denomination, estimates, traffic control and product inspection. Can be supplied in any of 67 combinations up to 6 tiers high and 12 units wide. Entire row of counters is reset to zero with a turn of one knob.

Veeder-Root INC.

Hartford 2, Connecticut

The Name that Counts

Hartford, Conn. • Greenville, S. C. • Altoona, Pa. • Chicago • New York • Los Angeles
San Francisco • Seattle • St. Louis • Montreal. Offices and Agents in other principal cities

VR9-61

For swift sure service

to principal Textile Centers of the Eastern Seaboard and the Midwest,

always specify . . .

TRUCKING McLEAN COMPANY

Our 25th Year of Service 1934-1959

"We pull for Industry"

TEXTILE DIVISION OFFICES TO SERVE YOU—

- Baltimore
- Boston
- Chicago
- New York
- Philadelphia

For "know-how" service on truck loads *or less*, call McLean today, or write Dept. A, Box 213, Winston-Salem, N.C.

McLean also manages and operates Hayes Freight Lines, Inc., serving the Central States

what this can do to the confidence people have in you.

One of the major developments in industry today is the accelerating trend to automation. In the long run, there is no question that automation, just as with the technological improvements that have been made in the past, will produce a higher standard of living and more jobs for our nation's citizens. There is also no question that in the short run, automation will displace certain workers and require them to learn new skills or transfer to other types of employment.

At the point when an automobile worker is laid off because automated equipment has eliminated his job on the assembly line, there is little point in sugar-coating it by telling him how he will benefit in the long term by better automobiles and lower production costs. He is only concerned with here and now, how he is going to make a living and support a family.

So when it is necessary to pass on bad news, don't sugar-coat it and try to make it look to be what it is not.

4. There must be a reason; explain it

When there's bad news, there must be a reason for it. This reason should be explained to the employee. Sometimes the circumstances causing the bad news are entirely outside the employee's control. Perhaps the market has changed and affected his job. Perhaps emergency conditions have developed that will temporarily place a greater burden on him and require extraordinary effort. The employee will understand better and react more positively if he understands these circumstances.

Or the bad news may be traced to his responsibility. His performance may have fallen off, he may not be able to meet new standards, or he may not be able to learn the job properly. Whatever the specific reason that results in bad news, the fair and sensible course is to explain it as well as you can.

5. Never mind how good he's had it up to now

Occasionally it is necessary to reduce an incentive rate that has become loose, to adjust downward an hourly rate that is out of line, to eliminate incentive rates where previously they existed, to make a substantial increase in job assignment, or something similar. The impact on the

VISQUEEN TRADEMARK 'Q' FILM

Gives You

CLARITY

"We judge packaging materials by sales figures. Our 'Miracloth' household cleaning cloths move off the racks fast—and move in volume. We're sure that since we switched to VISQUEEN 'Q' film for clarity, the better see-through has spurred impulse buying. Cost? Although VISQUEEN film is the quality polyethylene—more uniform in thickness—it is more economical than other materials. Stylecraft Packaging Service, Charlotte, N. C. fabricates and prints our bags of VISQUEEN film."

Grover C. Culshaw
Product Director
Chicopee Manufacturing Corporation
Milltown, N. J.

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CIRCLE 174 ON READER SERVICE CARD

CIRCLE 250 ON READER SERVICE CARD

employee is quite severe, either in terms of reduced take-home pay or in the amount of work to be done to maintain prior earnings. This is bad news.

My experience leads me to the conclusion that it doesn't help the employee to accept the bad news graciously if you remind him how good he's had it up to now, that he's been riding the gravy train long enough. The employee may well recognize that what you're saying is true, but I sure get the impression he doesn't like to hear you say it.

A typical reaction to an unpleasant situation can be summed up something like this: "Let me have the bad news, all of it, quick. Tell me how it happened, and let me know if there is anything I can do about it."

Chances are that your employees will have that attitude when you have bad news to tell them. So be honest with them and avoid the misunderstanding and hard feelings that raise doubts about your sincerity and ability as a supervisor.

NEWS ABOUT MILLS

CONTINUED FROM PAGE 17

Scottsboro Hosiery Co., Scottsboro, Ala., a division of Burlington Hosiery Co., is expanding its plant by one-third.

Seattle Knitting Mills, Seattle, Wash., has completed an expansion that increased its space to 12,000 sq. ft. Five new knitting machines were installed.

Southern Knitwear Mills, Inc., Charlotte, N. C., is planning a 26,000-sq.-ft. addition.

Spartan Mills, Spartanburg, S. C., will build a $400,000 addition that will house additional looms.

Strutwear, Inc., Minneapolis, Minn., has sold its wholly owned subsidiary, Hayward Hosiery Co., Ipswich, Mass.

Superior Yarn Mill, Mt. Holly, N. C., has closed its Long Island plant in Catawba County.

Union Underwear Co., Campbellsville, Ky., has bought three plants in Aliceville, Fayette, and Winfield,

VISQUEEN 'Q' FILM
TRADEMARK
CLARITY
moves merchandise

VISQUEEN 'Q' film *adds* sparkle to your product. Every detail is crystal clear. No product features are lost. No sales advantages obscured. Printing stays *fast:* No ink rub-off. You get better brand identification. And because VISQUEEN 'Q' film is more uniform in thickness, there are no thin, weak spots. You get a *stronger* package. Breakage is reduced. VISQUEEN 'Q' film will not age or yellow. You get longer shelf life. Write now—or use the information request tag for details on how you can get better packages at less cost.

Information request tag
VisQueen
Trade Mark
clip this tag—# TW-11
attach to letterhead, mail.

VISQUEEN *film—first and foremost polyethylene film. A product of the long experience and outstanding research of PLASTICS DIVISION*
VISKING COMPANY
6733 W. 65th St. Chicago 38, Illinois
Division of UNION CARBIDE *Corporation*

In Canada: VISKING COMPANY DIVISION OF UNION CARBIDE CANADA LIMITED, Lindsay, Ont.

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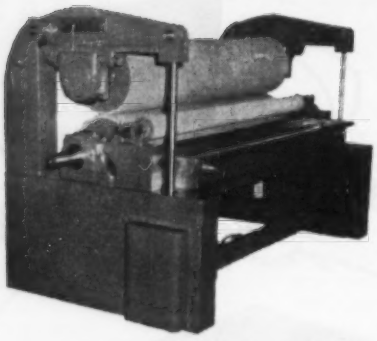
CIRCLE 175 ON READER SERVICE CARD

J. E. CARROLL & CO.

HEAVY DUTY
PNEUMATIC PADDER



New and improved operating features include equalized pressure control, spherical roller bearing roll mounting, welded steel frame construction. Available with several optional features. Other models to choose from. We sincerely solicit your inquiries.

CYLINDER DRYERS • PADDERS • COOLING CYLINDERS • DYE TANKS

J. E. CARROLL & CO. LOWELL, MASSACHUSETTS

CIRCLE 251 ON READER SERVICE CARD

Automatic
Steam Line Service

Cuts
Maintenance Costs
Improves Production

This PSC team automatically delivers maximum heat at minimum cost to your slashers, dry cans, calenders, embossers, and printing and coating machines.

THE UNITRAP* Automatically adjusts to variations in line pressure from 0 to 250 PSI, without changes or adjustments. Delivers maximum temperatures at all times . . . gives you faster warm-up and greater capacity.

THE ROTARY UNION* A precision mechanical rotating seal which requires no mechanical maintenance. It is self-aligning and self-adjusting. Unique siphon support prevents loosening, breaking, or falling off of siphon pipe.

For tops in economy and efficiency, write for Bulletins 700 and 800W

*Trade Name—Patented

"WHERE Good Connections COUNT"®
PERFECTING SERVICE COMPANY, 332 Atando Ave., Charlotte, N.C.
Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland—Los Angeles
New York—Providence—Hamilton, Ont.—Montreal—Toronto

Ala., from Dan River Mills, Inc., Danville, Va. Union Underwear plans to manufacture broadcloth in the newly acquired plants.

West Point Mfg. Co., West Point, Ga., and its associated company, Cabin Crafts, Inc., Dalton, Ga., have entered into a joint agreement with Lanerossi S.p.A., Milan, Italy, to form a company in northern Italy to manufacture tufted carpets and bedspreads under Cabin Crafts' patents. The new company will be known as Societa Europea Rossifloor P.A.

ELECTRONIC CONTROLS

CONTINUED FROM PAGE 67

Winding speed varied from 200 to 900 yds. per min.

(This machine will be handled in the U. S. by Southeastern Engineering Co.)

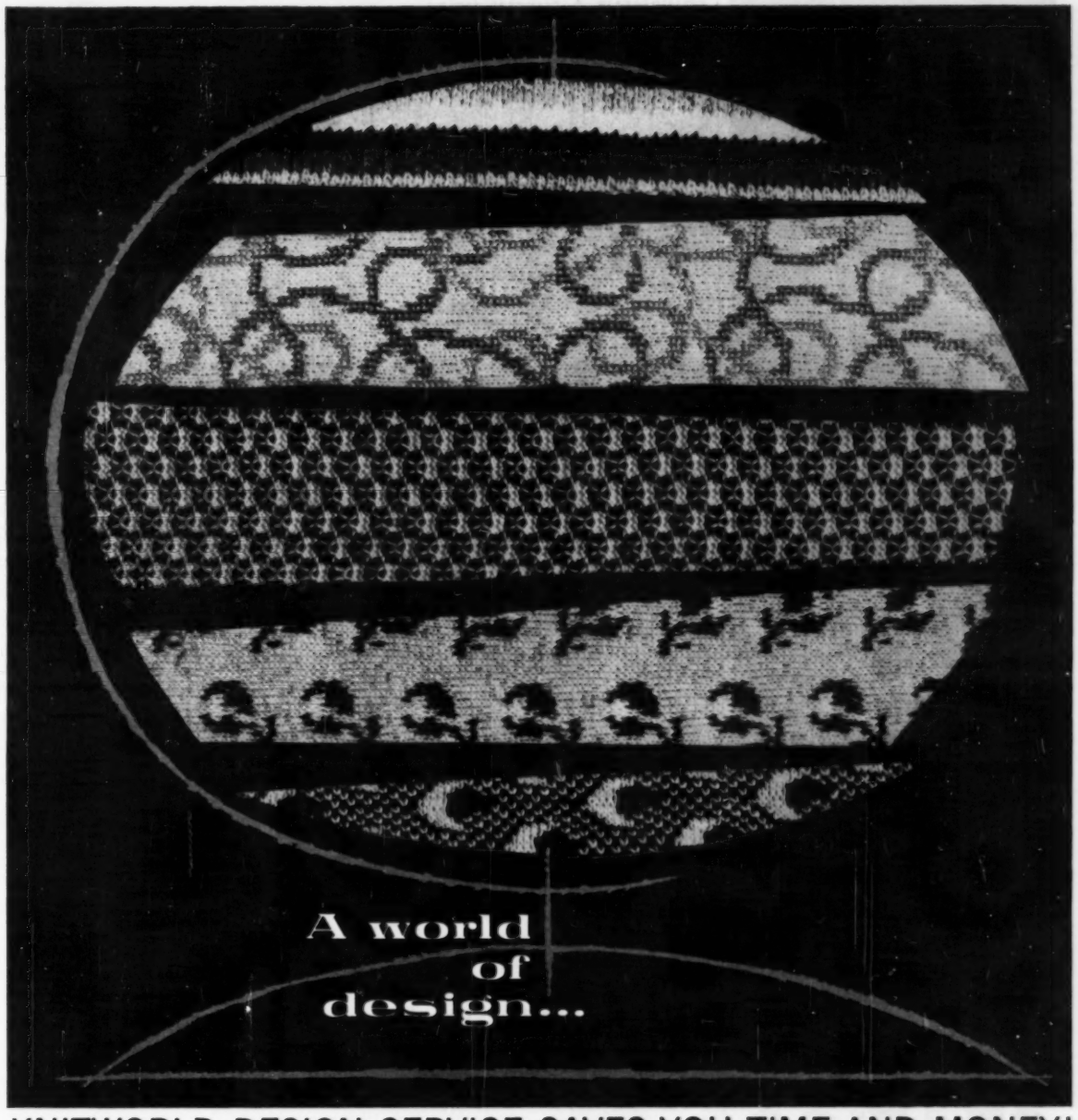
A weft straightener for correcting bowed filling in finished cloth was shown by Erhardt & Leimer oHG, Augsburg, Germany. The straightener consists of a correction roll to straighten the bowed filling, a hand-setting control unit to measure the distortion of the filling, and an electronic control to transfer the amount of correction needed to the correction roll.

Running speed of the fabric can vary between 3 and 200 meters per minute.

For weaving, an optical-electronic bobbin feeler to serve as an extremely sensitive filling feeler during weaving was shown by Loepfe Bros. Ltd., Zurich, Switzerland.

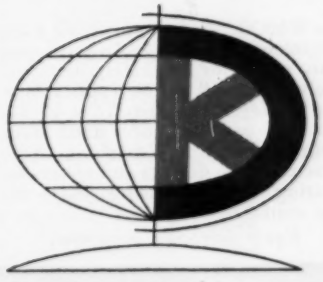
Working on the same principle as the well-known electric-eye door, the feeler uses a reflected beam to register faults in filling insertion and empty filling bobbins. Tension on the filling does not influence the beam. The feeler head projects one beam onto the filling bobbin as the bobbin is weaving and one on the bobbin when the shuttle is in transfer position. If the filling is running properly, nothing happens. But if the filling end is trailing, is slack, if two ends cross the beam, or if the bobbin is empty, something is wrong and the feeler stops the loom.

(This new electronic feeler will be sold in the U. S. by H. J. Theiler Corp., Whitinsville, Mass.)



KNITWORLD DESIGN SERVICE SAVES YOU TIME AND MONEY!

A new world of design . . . and KNITWORLD DESIGNS INCORPORATED brings that world to your desk! Especially conceived for busy mill executives abroad, KNITWORLD'S SWATCH BULLETINS contain actual swatches of fabrics by leading knit-goods designers in the United States . . . fabrics currently marketed by the foremost mills in the country. Detailed information consisting of Pattern wheel readings, Stripe mechanism readings, knitting and yarn instructions, and — if desired — color combinations is available in KNITWORLD DESIGN PACKAGES. Used together, KNITWORLD SWATCH BULLETINS and KNITWORLD DESIGN PACKAGES enable you to easily set up these designs on your circular knitting machinery. Send for a detailed brochure that will show you how the inexpensive services of KNITWORLD DESIGNS INCORPORATED save you time and money!



KNITWORLD DESIGNS INCORPORATED

41 WEST 57TH STREET, NEW YORK 19, NEW YORK, U.S.A. • CABLE ADDRESS: KNITDESIGN

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are you struck by

STATIC?

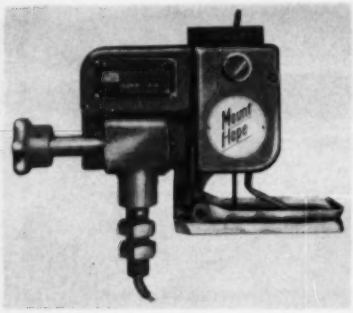
The SIMCO "*Midget*" electronic static eliminator is *guaranteed* to end your static problems . . . safely, inexpensively . . . in all textile applications. The "*Midget*" consists of a power unit and one or more static bars, designed to fit any machine. Anti-static cleaning devices and meters for locating and measuring static are also available.

Equip your machinery now.

the SIMCO company
920 Walnut Street, Lansdale, Pa.

CONTINUED FROM PAGE 164

Tenter-Feed Switch



Cloth is fed to tenters at a uniform depth and misclips are eliminated by a tenter-feed switch developed by Mount Hope Machinery Co., 15 Fifth St., Taunton, Mass.

The switch is equipped with a knurled handwheel that adjusts depth of feed and with an outside lever that permits quick adjustment of the switch. Selvage-support plates permit handling of the lightest-weight fabrics. A safety switch automatically prevents excessive motion when cloth ends run out.

The feeder switch can be applied to electric, pneumatic, or hydraulic rail-motion actuators. **(Circle T-21 on Reader-Service Card)**

Light-Duty Aluminum Casters

Aluminum casters with sealed bearings for light duty have been developed by Bassick Co., 3045 Fairfield Ave., Bridgeport 5, Conn. The casters are 5 and 6 ins. in diameter and have neoprene-tread wheels 2 ins. wide.

The Series BS for swivel operation and Series BT for rigid operation are for applications where corrosive conditions prevail or where casters are regularly left out of doors.

Both wheel and swivel bearings are sealed, and horn surfaces are smooth with no cracks or projections to catch lint and dirt. **(Circle T-22 on Reader-Service Card)**

Tensile-Strength Tester

A tensile-strength tester that can be used to test hanks, cloth, tire cord, tape, belting, and other materials has been announced by B. Renard & Co.,

Finding a way to increase production and reduce waste can often result in substantial savings. Take fabric guiders, for instance . . .

MECHO AIR GUIDERS

Here are three ideas that can pay off for you for years to come with these ingenious cost-cutters.

ELIMINATE FABRIC SPOILAGE
Mecho's gentle action and exclusive features eliminate double edges, spattering and other damage to fabric.

SPEED UP FABRIC PROCESSING
by adjusting Mecho's selvage finger tension to handle the lightest fabric or #8 duck at 1 to 400 ypm *while in operation*. It'll stay accurate within 1/8 inch.

REDUCE REPAIRS AND DOWN-TIME
with the simplicity of Mecho's precision design . . . no weights or linkages . . . nothing to get out of order.

If you aren't already enjoying these and other cost-cutting advantages of Mecho Air Guiders, why not check up now?

Send today for your free copy of the Mecho Air Guider Catalog.

THE Guider SPECIALTY COMPANY

427 W. Rock Ave., New Haven, 15, Conn.

SOUTH'N REP.:
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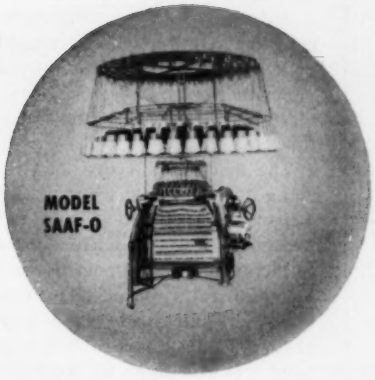
P.O. Box 3635
Charlotte 3, N. C.
EXPORT & NEW ENG. REP.:
Standard Mill Supply Company
P.O. Box 1534
Providence 1, R. I.

CIRCLE 252 ON READER SERVICE CARD



These features make SUPREME

the latest word in modernized, low-cost knitting

of automatic, variable striped, patterned or solid jersey *with* or *without* knit-on simulated rib trim and draw thread section separators

HIGH SPEED PRODUCTION

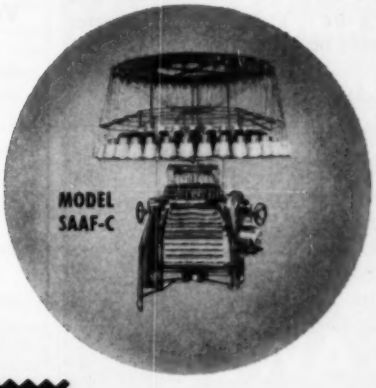
Large number of feeds, rugged construction and stationary yarnstand give you vari-striped and patterned fabrics at unprecedented rates. Standard 26" machine has 32 four color striping boxes — 32 three position pattern wheels—32 automatic pattern placers.

TREMENDOUS VERSATILITY

Striping boxes, pattern wheels and placers on every feed let you pour out an infinite variety of striking, multi-colored fabrics — with pattern inserts twice the size previously possible. Knit a wide variety of fabric construction and textures with virtually any type of natural or synthetic yarn.

HIGH QUALITY AT LOW COST

Knitting efficiency and quality are insured by these ingenious new features—128 cone, "step-design" (Pat. Pend.) yarnstand, new knitting elements system, new striping box with easy, manual setting, new pattern placer with slideable studs for fingertip control and new, scissor-type, synchronized "no-waste" cutters.



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Southern Representative and Showroom
The Mallack Co. 711 S. Tryon St., Charlotte, N. C.

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The PAYD Plan

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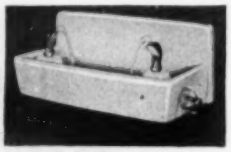
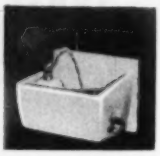
They're TAYLOR-made.. they're streamlined





• It's new, it's a Halsey Taylor *first*. . . . the WALL-MOUNT Cooler. Mounted *on the wall*, off the floor! No exposed fittings, easy to keep clean, no corners to catch dirt!

Ultra modern, recessed and face-mounted fountains, and battery types as well! The last word in performance and appearance.

..built for today's modern architecture

To get the newest in fountains or coolers, all you need do is to specify Halsey Taylor. Then you know you can meet the most modern architectural decor! Ask for latest catalog or see Sweet's.

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AT YOUR SERVICE

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FOR
TWISTING • FORMING
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HASKELL-DAWES

MACHINE CO., INC.
2231 E. Ontario Street
Philadelphia 34, Pa.

18 Barry St., Bradford 1, Yorkshire, England.

The load-measuring element is a hydrostatic capsule that is completely sealed and has no moving parts except the indicator. This arrangement completely eliminates the inertia or momentum present in mechanical systems and gives a constant rate of traverse.

The machine has two load ranges and a dual scale that operates without weights. An automatic stop motion instantly stops the machine as soon as the break or yield point is reached. Standard rates of traverse can be modified, and load range can be selected to suit individual requirements. **(Circle T-23 on Reader-Service Card)**

Doffing-Truck Caster

A line of casters especially designed for doffing trucks has been announced by Rapids-Standard Co., Inc., Grand Rapids, Mich.

The doffing caster has a Nicro steel wheel with a flat face and fully rounded edges for floor protection. Ball bearings provide maximum rollability. Other features include a zinc-plated thread guard completely recessed.

The lubrication fitting is recessed to prevent snagging of threads and damage to the fitting. Clearance is provided between the leg of the caster and the thread guard by two spacer washers to facilitate thread removal. **(Circle T-24 on Reader-Service Card)**

Variable-Speed Sheave

A variable-speed sheave that holds constant driving speed during changing torque loads is being offered by T. B. Wood's Sons Co., Chambersburg, Pa. A further advantage is the absence of freezing. No matter how long the sheave has been running at a set speed, it will not stick when the speed is changed.

Over-all maintenance is reduced, and the oil reservoir has to be checked only once or twice a year.

Cam pressure is exerted only when the load requires it. Power is transmitted equally to both movable flanges through a series of torsionally resilient rubber cam followers.

The side-wall pressure on the belt varies in proportion to the torque required to carry the load. Since the

A view of the Barber-Colman display at the American Textile Machinery Exhibition in 1954. The machine in the foreground is drawing-in a complicated stripe pattern.

BARBER COLMAN

ATLANTIC CITY, N. J.
MAY 23-27, 1960

It is not too early to plan...

Less than a year from now, the next great American Textile Machinery Exhibition will take place at Atlantic City, in the same huge Auditorium which has housed it on two previous occasions. *It is not too early now for you to start planning to be there.* Barber-Colman will, of course, be among the exhibitors — with operating examples of all the latest and most interesting models of Barber-Colman machines. You will find machines here that can improve the quality of your products, increase the efficiency of your manufacturing methods, and reduce your operating costs by significant amounts. You will have a chance to see these machines in actual operation demonstrating their capabilities on the yarns and goods for which they are designed. You will have a chance to talk with experienced men, who can discuss in detail the possible uses of Barber-Colman machines in your own mill. You will have a chance to ascertain the advantages and calculate the comparative costs of the new Barber-Colman ideas against your present methods. These valuable opportunities are planned for *your* benefit—so, start to plan *now* on being at Atlantic City next May.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY
ROCKFORD • ILLINOIS • U. S. A.

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Avenida Rio Branco No. 50, Rooms 1201/3
P. O. Box No. 63
Rio de Janeiro, Brazil

JAPAN
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Atlas Building (7th Floor)
11, Bingo-machi, 3-chome,
Higashi-ku,
Osaka, Japan

PAKISTAN
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(M'cr.) Ltd.
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in producing top quality
HIGH PILE
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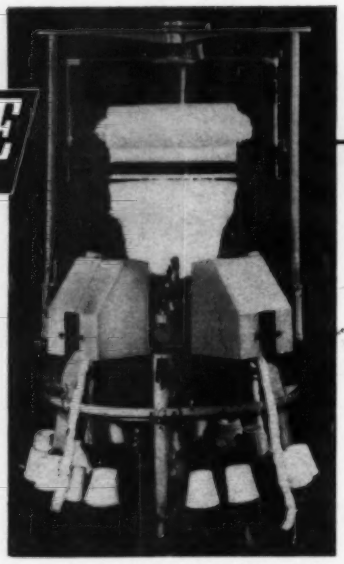
now you can make
12 YARDS PER HOUR
with four feeds



It's the new TOMPKINS S-1 JUNIOR with carding units to produce high pile material in a variety of sizes, weights and sliver content!

Available in two models with cylinder interchangeability from 12" to 28" (S-1 Jr.) and 24" to 38" (S-1 Sr.), this knitter gives you the proven quality and economy of a fully modern Tompkins circular spring needle machine. Model shown has four high pile cards and feeds, each with stop motion control, and triple stop motions in the knitting mechanism. Features a patented, gearless drive and vacuum air cleaner. *It will pay you to get full information — write, phone or stop in now . . .*

TOMPKINS BROS. CO.
623 ONEIDA ST. • SYRACUSE 4, N. Y.
Circular Spring and Latch Needle Knitting Machinery...Since 1846
CIRCLE 254 ON READER SERVICE CARD

WATCH FOR THESE
TEXTILE WORLD
SPECIAL EDITORIAL FEATURES IN 1960

JANUARY—Review and Forecast. What happened in 1959 and what mills can expect in 1960.
FEBRUARY—Mill Building. New construction methods and trends for expansion and modernization.
MARCH—Textile Chemical and Finishing Progress Report. Dyes, chemicals, finishes and processes for greater profits in 1960.
APRIL—Knitting. New yarns, fabrics, finishes and machines for knitting profits in 1960.
MAY—American Textile Machinery Exhibition. Pre-show issue—exhibitors and what is to be shown.
JUNE—Electrical Modernization. Present state of electrical equipment, what modernization of processing equipment means in regard to additional electrical equipment and other data vital to intelligent planning.
JULY—American Textile Machinery Exhibition. Complete report of the show—outstanding developments and trends.
MID-JULY—Fact File Issue. Unduplicated hand-book data on supervision, engineering, manufacturing and chemical-treatment. Reader-tailored.
AUGUST—Man-Made fibers 1960. Twelve months interim report on new fibers, modified fibers and experimental fibers.
SEPTEMBER—Southern Textile Exposition. Pre-show issue—exhibitors in Greenville and what is to be shown.
OCTOBER—Annual modernization plus pre-AATCC and pre-Chemical Finishing Conference issue.
NOVEMBER—Southern Textile Exposition. Complete report of the Greenville show—outstanding developments and trends. Also report on AATCC and Chemical Finishing Conference.
DECEMBER—Fabrics of Man-Made Fibers and Blends. Data table on important commercial fabrics with details on fibers, blends, finishes and end-product characteristics.

grip on the belt increases as the load increases, the pitch diameter is maintained and the driven speed is kept constant regardless of the torque condition. Belt life is prolonged because the flanges are not continuously being squeezed against the belt.

The drive sheave is offered in two sizes: (1) MCS-10-W for motors of 7½ to 15 hp. with a minimum pitch diameter of 5 ins. and a maximum pitch diameter of 10 ins., and (2) MCS-12-W for motors of 15 to 20 hp. with a minimum pitch diameter of 6 ins. and a maximum pitch diameter of 12 ins. **Circle T-25 on Reader-Service card**

Pressure-Vacuum Control

Two supersensitive low-cost pressure-vacuum controls, one uncalibrated and the other calibrated, are now offered by United Electric Controls Co., 79 School St., Watertown 72, Mass. **Circle T-26 on Reader-Service Card**

Metering Pump

Clear and corrosive liquids of many types can be metered to process by the Model CM metering pump announced by Milton Roy Co., 1300 E. Mermaid Lane, Philadelphia, Pa. **Circle T-27 on Reader-Service Card**

Vinyl Stabilizer

An improved barium-cadmium complex stabilizer used in calendering various vinyl formulations has been marketed as Nuostabe V-134 by Nuodex Products Div., Heyden Chemical Co., Dept. V, Elizabeth, N. J. **Circle T-28 on Reader-Service Card**

Rotating-Shelf Oven

A laboratory oven capable of operating at 100 to 500° F. and equipped with a recording controller sensitive to ±½° C. is available from Blue M Electric Co., 138th & Chatham St., Blue Island, Ill. **Circle T-29 on Reader-Service Card**

Variable-Length Imprinter

Interchangeable-type wheels of various sizes are used to provide flexi-

1929–1959

30 Years

GHERZI TEXTIL ORGANISATION ZURICH

CONSULTING ENGINEERS FOR THE TEXTILE INDUSTRY

REORGANIZATION
PROJECTS
NEW PLANTS
COST ACCOUNTING
APPRAISALS

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BLENDS AND CUTS THREAD WASTE IN ONE OPERATION

An important manufacturer of thread waste used to manually blend and floor mix various yarns according to the type waste desired. This manual mixing required many hours labor of 5 to 8 workers. Following mixing, the yarn was cut slowly by hand.

Then this manufacturer installed a Taylor-Stiles Thread Waste Cutter. Today only 2 to 3 workers are needed to open up the bales of various grades of waste, and blend the yarns as they are placed on the feed apron for machine cutting.

Two operations have been telescoped into one, and only 2 to 3 workers are needed to do more than 5 to 8 did before.

For full details regarding this installation and Taylor-Stiles Thread Waste Cutters, write for Taylor-Stiles "Cutting Topics", May 1959, and Technical Bulletin #201.

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GENERAL OFFICES: ATLANTA AIRPORT, ATLANTA, GA.

bility in the length of legends imprinted on containers by the Model 780 imprinter announced by Adolf Gottscho Inc., Hillside 5, N. J. **Circle T-30 on Reader-Service Card**

Multiple Outlet Box

A heavy-duty multiple outlet box that consists of an on-off switch, a neon indicator, and six receptacles is announced by Waber Electronics, Havertown, Pa. **Circle T-31 on Reader-Service Card**

Vibrator

An electric vibrator with a vise-lock mounting that will move, loosen, screen, and package the most hard-to-move materials is being manufactured by Cleveland Vibrator Co., Cleveland, Ohio. **Circle T-32 on Reader-Service Card**

Button-Sewing Machine

A button-sewing machine that sews four-hole buttons without the usual crossover stitch has been developed by Lewis Sewing Machine Co., 315 W. 35th St., New York 1, N. Y. **Circle T-33 on Reader-Service Card**

Polystyrene Film

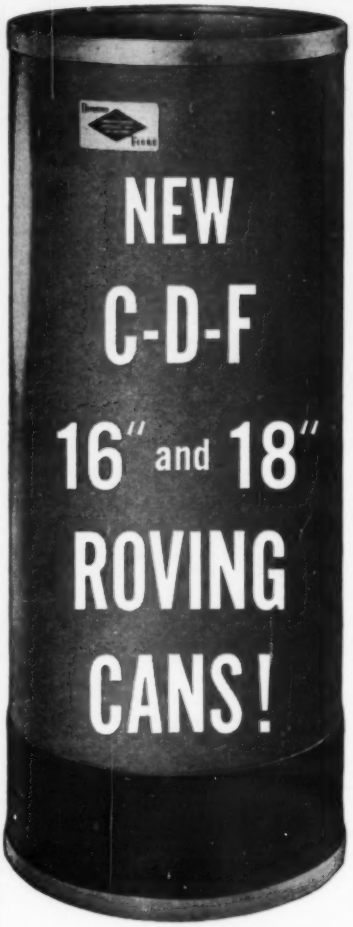
A low-cost packaging film based on polystyrene will soon be in commercial production from Dow Chemical Co., Midland, Mich. The film is clear and strong, and it does not become brittle with age. **Circle T-34 on Reader-Service Card**

Improved Anion-Bed Support

An anion-bed support that elminates the need for subfill media and reduces final anion-unit rinse requirements is available from Graver Water Conditioning Co., 216 W. 14th St., New York 11, N. Y. **Circle T-35 on Reader-Service Card**

Materials-Handling System

A materials-handling system that increases useful warehouse space and



SEAMLESS! SNAG-FREE!

Now you can get Diamond Fibre Roving Cans in the big 16" and 18" diameters from regular stock at the Spartanburg plant-warehouse.

Static-free rolled fibre top rim for running synthetics; one-piece steel top rim; or swedged top rim—these meet all roving requirements.

CDF Diamond Fibre Roving Cans are smooth, strong, long-lived. Their interior surface, like porcelain, resists cracking and softening—won't snag yarns.

Make the CDF Spartanburg warehouse (834 Hayne Street, Spartanburg, S.C.—Tel. 3-6397) your headquarters for fibre and Celoron loom parts, gears, trucks, and mill boxes. Call Spartanburg or write for CDF Receptacles Catalog.

CDF CONTINENTAL-DIAMOND FIBRE
A Subsidiary of The Budd Company
Newark 55, Del.

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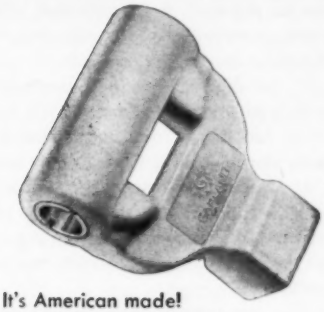
NEW
PLASTIC
loom
PICKER
by
GARLAND



It's American made!
It costs less than imports!
It wears longer!
It gives higher efficiency...by test!

IT'S THE NEW GARLAND CUSTOM MOULDED HIGH DENSITY POLYETHYLENE REVERSIBLE DROP BOX PICKER, THAT YOU'VE BEEN HEARING SO MUCH ABOUT.

If you haven't seen, priced and tried this revolutionary plastic picker by Garland, write, wire or phone today.

If you don't, you'll miss out on a tremendous price and performance deal.

EXCLUSIVE!

QUICK CHANGE BUSHINGS AND SPECIAL CHANGER TOOL. ONLY A FEW TURNS TO REMOVE AND REPLACE.

SEND FOR COMPLETE DETAILS
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MANUFACTURERS OF PLASTIC & RAWHIDE LOOM PICKERS • SPONGE LEATHER BUNTERS • LEATHER PRODUCTS • ROD LUBRICANT • NYLON AND RAWHIDE HAMMERS & MALLETS

50 WATER STREET • SACO, MAINE

CIRCLE 256 ON READER SERVICE CARD

cuts labor cost has been announced by Automatic Warehousing Branch, Pesco Products Div., Borg-Warner Corp., 24,700 N. Miles Rd., Bedford, Ohio. With this equipment, palletized goods may be loaded or unloaded from racks and transported to central points by push-button control of the loading apparatus. **Circle T-36 on Reader-Service Card**

Inspection Kit

Hidden flaws and cracks in machine parts or other materials can be detected by a dye-penetrant inspection kit offered by Magnaflux Corp., 7307 W. Ainslie Ave., Chicago 31, Ill., which includes cleaner, penetrant, and developer solutions in pressure-spray cans. **Circle T-37 on Reader-Service Card**

Heat Exchangers

Heat exchangers made by American-Standard, Ross Heat Exchanger Div., Box 2081, Buffalo 5, N. Y., can be assembled at point of use and can be had in a variety of materials, sizes, and port arrangements. One-, two-, and four-pass designs are offered for many applications involving any combination of liquids or gases. **Circle T-38 on Reader-Service Card**

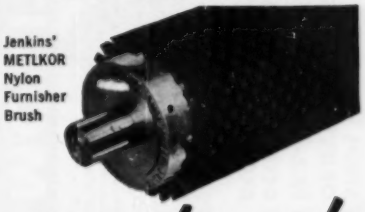
Cutter Guide

An accessory platform and guide for the JDC Precision sample cutter that makes it possible to cut precision tensile-test samples and Elmendorf tearing-test samples at the same time has been developed by Thwing-Albert Instrument Co., Penn St. & Pulaski Ave., Philadelphia 44, Pa. **Circle T-39 on Reader-Service Card**

Marking Tool

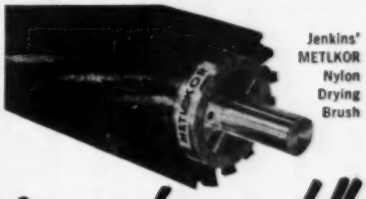
Magic Marker, supplied by Speedry Products, P. O. Box 97, Richmond Hill, Jamaica 18, N. Y., will mark on any surface and is particularly adapted for shipping-room use or any purpose where coding, addressing, or inventory marking is necessary. The product is available in black, brown, white, and six brilliant colors. **Circle T-40 on Reader-Service Card**

"a brush



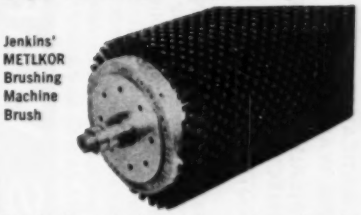
Jenkins' METLKOR Nylon Furnisher Brush

is a brush



Jenkins' METLKOR Nylon Drying Brush

is a brush"



Jenkins' METLKOR Brushing Machine Brush

Poetically speaking, true, but there's no brush like a Jenkins' METLKOR Brush. Textile Mill men everywhere say it's true. There are "Look-Alikes", "Just-as-Goods", "Steals", "Terrific Bargains" but only one Jenkins' METLKOR. They are built better to perform better to last longer. Result . . . Improved product, greater satisfaction and economy.

Specify Jenkins' METLKOR
the original . . . the best *Metal Core* brush

METLKOR®
CYLINDER BRUSHES
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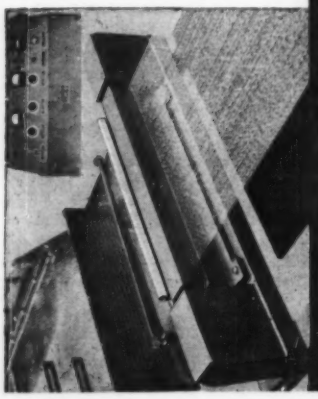

FABRIONICS WARP YARN MONITOR

- AUTOMATICALLY DETECTS DEFECTS IN YARN DURING WARPING
- ELECTRICALLY COUNTS DEFECTS ABOVE PRE-SELECTED SIZE
- FOR COTTON — WOOL — AND SYNTHETIC YARNS
- STOPS WARPER FOR REMOVAL OF OBJECTIONAL DEFECTS
- FAIL-SAFE CONTROL INSURES CONSTANT SENSITIVITY
- DETECTS DEFECTS AS SMALL AS A SINGLE BROKEN FILAMENT

The Fabrionics Warp Yarn Monitor is an electronically controlled monitoring device which automatically detects imperfections in yarn above a pre-selected magnitude, simultaneously counts them and stops the warper to permit their removal. The Liner Discriminator model detects and differentiates *length* as well as *diameter* defects.

The Warp Yarn Monitor is placed to the rear of a warper at which point the yarn is condensed into a flat sheet and it is drawn over a lisimag or hard chrome plated steel rods and photo-electrically inspected.

NOTE: Free literature and complete catalog on quality control instruments and devices are offered by the Fabrionics Corporation. Write to the FABRIONICS CORPORATION, P.O. Box 521, Dept. H, Huntington, L. I., New York.

Patent Pending

Fabrionics

CONTINUED FROM PAGE 22

Many Factors Can Cause Cut Yarn at Spinning

Technical Editor:

We recently have noticed a good bit of cut yarn on our spinning bobbins. We've gone over our frames pretty carefully but can't seem to find the cause of this trouble. Do you have any ideas as to what we should do to correct the fault? (1475)

Yes. Go over your frames again, this time more carefully, and have your fixers look out for (1) draft gears set too deeply, (2) draft gears changed between doffs, (3) worn gear studs, (4) bent steel rolls, (5) worn steel-roll necks, (6) badly worn rings, (7) worn travelers or travelers too heavy, (8) poorly pieced roll cots, (9) loose steel-roll squares, (10) back lash in draft gearing, and (11) dry top rolls.

If you don't find anything wrong with these 11 items, we suggest you call on your machine builder.

Two-Color Fluorescent Lamps Improve Hosiery Inspection

Technical Editor:

We are not satisfied with our hosiery-inspection department; the trouble seems to be mainly in the lighting arrangement. Can you tell us how other mills light their inspection departments? (1474)

Inspection of finished hosiery in a number of mills has been improved greatly with this system:

1. Each inspector is isolated with black chintz draw curtains.

2. Lights are above and behind the inspector so that the light bounces off the material being inspected.

3. For inspecting colored hosiery, eight fluorescent lamps are used. Four are daylight bulbs, and four are warm-white deluxe bulbs. Total light is 2,000 lumens.

4. The hosiery is inspected under the daylight bulbs only, and then these bulbs are turned off with a foot-operated switch. Next, the warm-white deluxe bulbs are turned on with a second foot-operated switch, and the hosiery is inspected again.

5. In this way, hosiery color matches under low-color value and also under high-color value. This system works equally well on other fabrics where color is an important factor.

The darker the color, the more important light becomes. For good seeing, black on white requires only 10 ft.-cs. But black on black requires 42 times this much light, or 420 ft.-cs.

How To Detect A Silicone Finish

Technical Editor:

We should like to know if there is any method by which we can detect a silicone finish in fabric samples that come to our laboratory. (1468)

Silicone finishes can be determined qualitively by using a method developed by Dr. G. Von Finck, of Bayer A.G.

The cloth may be extracted with petroleum ether to get a residue of unpolymerized silicone with which to make the test, or a sample of fabric can be digested in sulfuric acid. The extract method is preferable, but the digestion method saves time.

If the digestion method is chosen, pour 1 to 1½ ml. of 96% H_2SO_4 over 50 to 100 mg. of the sample that has been placed in a new, clean test tube.

If an extract of the goods is made with petroleum ether, pour a like amount of acid over 5 to 10 mg. of the evaporated residue from the extraction.

The test tube is then shaken over a small Bunsen-burner flame. The textile material will slowly dissolve. Every 3 to 5 secs. remove the test tube from the heat source, and observe the manner in which the boiling acid has run down the sides of the test tube.

After 1 to 1½ mins., the acid boils and SO_3 vapors are produced. If after this period of time, the acid runs back off the tube sides evenly and in a solid sheet, no silicones are present.

If silicones are present, the acid will run quickly down the tube side in droplets after only 20 to 40 secs., or at a temperature of 250 to 300° C.

The test can be confirmed as follows:

Cool and empty the tube, and rinse with distilled water until all the original acid is gone.

Add 1 to 1½ ml. of fresh sulfuric acid, and heat 20 to 30 secs. with constant shaking. The unevenly wetted effect should still be noticeable, but it will disappear if the acid is boiled for any length of time.

As little as 0.5 to 1 mg. of polysiloxanes can be detected by this method. Silicic-acid esters do not give this reaction.

How To Get the Most Out of Your Stainless Steel

Stainless steel is any iron-chromium alloy that contains at least 11.5% chromium; but most standard grades contain more. They also contain nickel and other elements such as molybdenum and manganese. Stainless alloys form a thin, transparent, and very tough oxide film that is passive.

Not all stainless steels are the same. More than 39 commercial types are available today, and each is different in its resistance to corrosion to common textile chemicals.

Therefore you should pick the type best for your handling of materials, temperatures, and processes to avoid pitting and subsequent difficulty in cleaning.

The austenitic stainless steels of the 300 series are more widely used than the 400 series. Type 302, the basis 18-8 stainless, meets many requirements. Type 316 or 317 may be needed on more-corrosive applications. If you receive more than one type in a single shipment, be sure to use the correct type for each application.

Install Equipment Carefully

Brighter finishes are protected during shipment by a paper or plastic covering. You should retain this covering as long as possible during your fabrication on the job. But if the covering must be removed, avoid scratching the stainless surface.

Don't let workers walk on the material, and avoid scratching the surface with steel tools. Scratches left unpolished lead to pitting in service if corrosive conditions are severe.

Keep the stainless surface clean from foreign matter during fabrication and installation. And when the protective covering is finally removed, see that it's removed completely.

Design your tanks and other processing equipment with smooth joints and round corners because bacteria, particles of dyes, or other materials can build up in crevices to make cleaning difficult. If a corner cannot be formed and must be joined, round out the corner with a fillet of welding metal for easier cleaning.

Other materials such as wood for platforms or galvanized metal for legs are sometimes used on stainless-steel equipment. But this practice is dangerous: carbon steel in contact with stainless rusts the surface and may discolor it, and wood absorbs liquids from spills and may pit the stainless at contact points.

Always use stainless-steel fasteners the same type of the equipment. Carbon-steel nuts and bolts, even though coated or plated, frequently rust from moisture. Materials that do not attack stainless steel corrode ordinary steel bolts to cause failure.

Design your equipment to prevent localized heating or overheating; heat-tint or discoloration requires a lot of time to remove.

Ground Equipment Against Currents

Ground stainless-steel equipment when you use it with electrical equipment to prevent galvanic action from stray currents.

When gaskets and packing are required, don't use graphitics that accelerate corrosion and pitting. Use asbestos, nylon, and other similarly satisfactory materials.

Before initial operation, be sure that all welds are smooth, all undesirable scratches have been removed, all traces of protecting covering and adhesive have been taken off, and all materials used in fabrication have been cleaned off.

In specifying steel for your equipment that must have good cleanability, it's most economical to use the lowest possible brightness finish. As a rule of thumb, specify your finish on the basis of appearance desired or the flowability of your product over the surface of the metal rather than an assumed relative cleanability.

Stainless-steel equipment should be cleaned regularly. For many applications, cleaning with hot water and soap, detergent, or ammonia is all that's needed. Follow ordinary washing with a fresh-water rinse to remove the cleaning solution. Wipe decorative surfaces dry to eliminate spotting. *Roland J. Berkol, Jones & Laughlin Steel Corp.*

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Every manufacturer knows a happy employee is a good employee and Bristol, Tenn.-Va. has the happiest employees in the nation. And for good reason . . . They're living in the finest section in the world and they know it.

Bristol is in the foothills of the Appalachian Range, high, healthy and happy. The Tennessee Valley lakes, The Great Smoky Mountains and the famed Valley of Virginia are but a stone's throw away.

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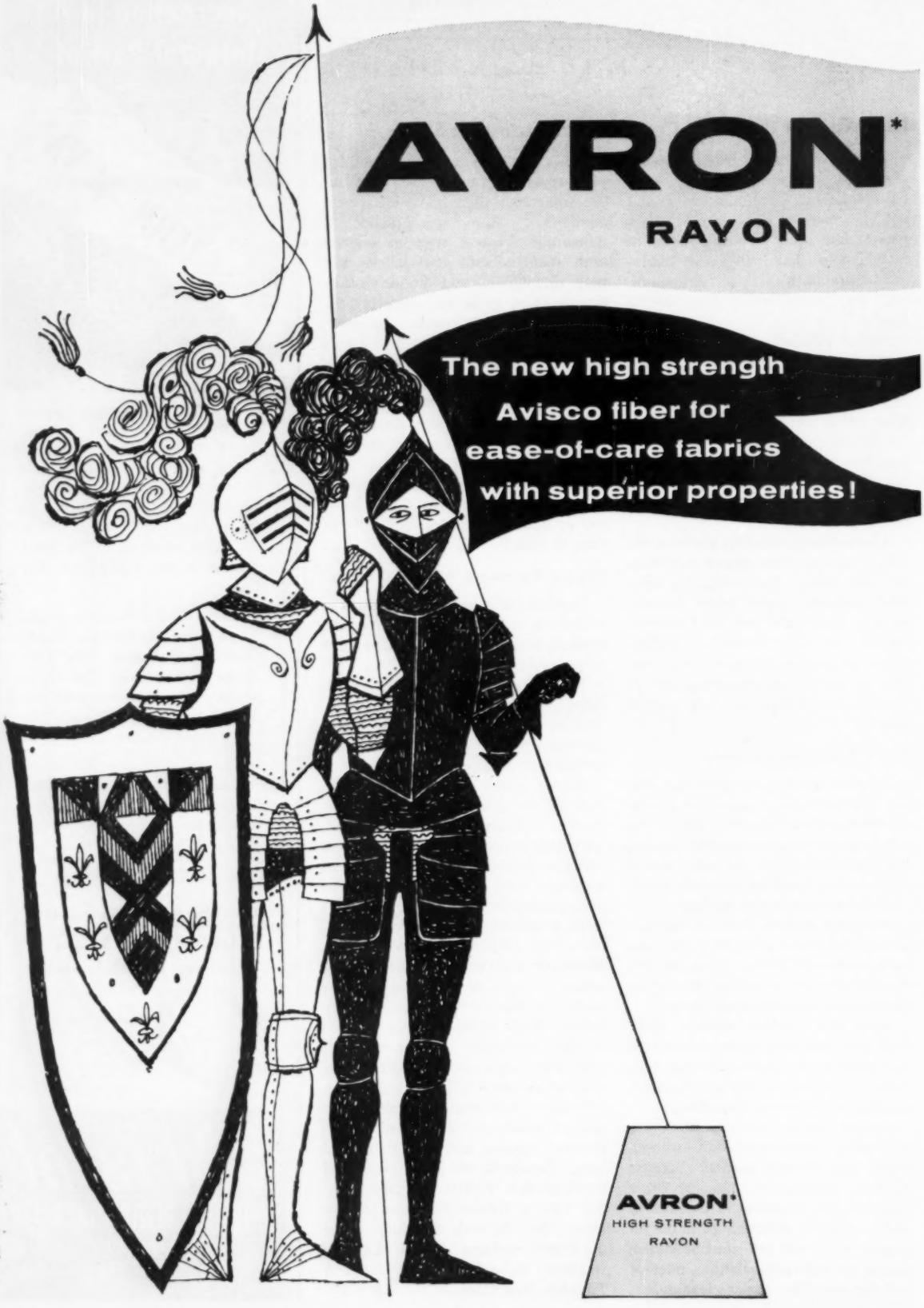
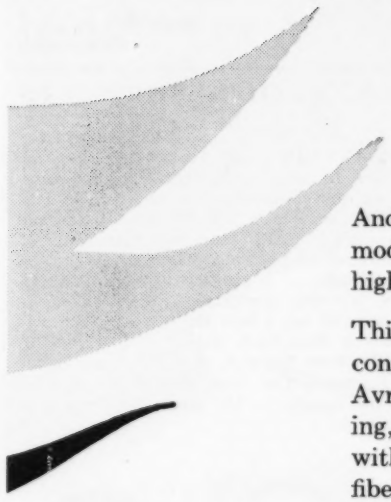

AVRON*
RAYON
The new high strength
Avisco fiber for
ease-of-care fabrics
with superior properties!
AVRON*
HIGH STRENGTH
RAYON



And you can produce these superior ease-of-care fabrics without modification of your present equipment. Why? Because this new high strength rayon is available—AVRON RAYON.

This new fiber excels cotton for single fiber tensile strength in the conditioned state, approximates it for the same property when wet. Avron is not degraded to the same extent as cotton by resin finishing, and when added to cotton, it imparts a soft hand unattainable with cotton alone. It can also be blended easily with other man-made fibers to achieve superior ease-of-care fabrics, finer more even fabrics with a soft, luxurious hand!

NO CHANGE IN TECHNIQUES NECESSARY

Avron rayon may be worked through the cotton system without any modification of equipment. Because of superior tensile strength, spinning and weaving efficiency is higher for Avron rayon than for cotton. And in any drawing frame blend with cotton, less waste means a cost saving. You get economy of operation, too, since there is practically no lint to clog your machinery.

EASE OF DYEING

Avron dyes to any shade easily without changing your techniques. In fact, it has a greater affinity for dye than cotton.

LIGHTER FABRICS FOR SAME STRENGTH

Because of the strength of Avron rayon, you can turn out lighter ease-of-care fabrics of the same strength as cotton, and a more even fabric because of the uniformity of Avron yarn. Also, standard weight cotton constructions can be made with 75 to 100% greater tensile strength and tear strength.

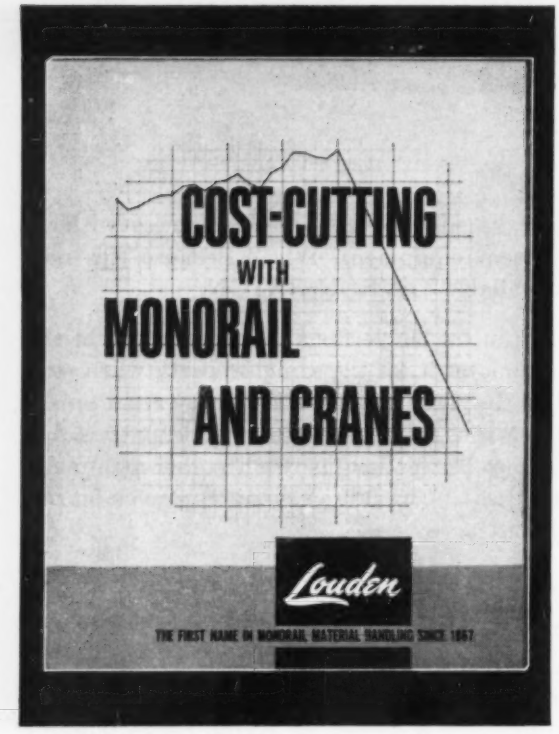
For more information write to:

AMERICAN VISCOSE CORPORATION, 350 Fifth Avenue, New York 1, N.Y.

AVISCO®

Rayon • Acetate • Cellophane

*Trademark of American Viscose Corporation



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NEWS ABOUT SUPPLIERS

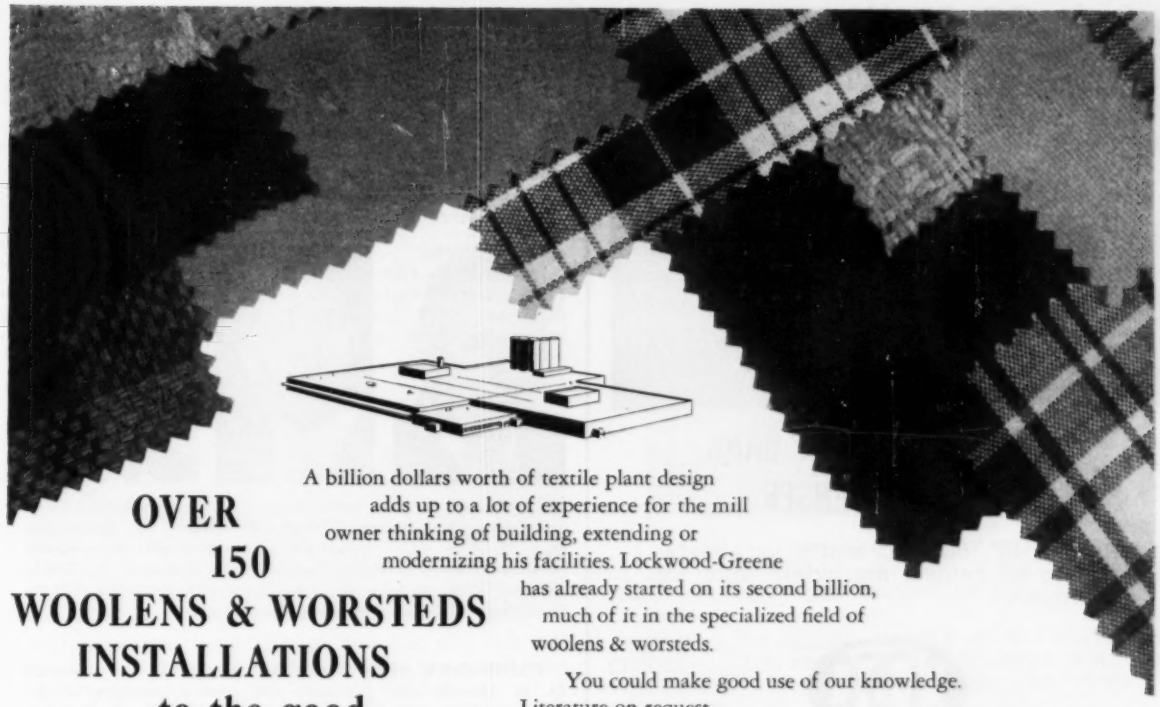
ALLIED CHEMICAL CORP., New York, N. Y.—Has appointed E. M. Williams, Jr., sales representative in the Greensboro, N. C., area for the company's National Aniline Div. The Solvay Process Div. has named J. L. Hochenedel assistant manager of the division's Houston, Tex., sales branch. E. K. Leins has been transferred to the Solvay Process Div.'s New Orleans, La., sales branch. . . . **AMERICAN CYANAMID CO.,** New York, N. Y.—Has appointed C. P. Bertland assistant general manager of the Fibers Div. J. C. Hyatt will handle dyestuffs sales in New York state. . . . **ATLANTIC ENGRAVING CORP.,** West Warwick, R. I.—Has announced that M & S Roll Engraving Co., East Brookfield, Mass., is now a division of the company. The new division will be located in West Warwick.

EDWARD D. CARMAN (left) has been named representative by Louis P. Batson Co., Greenville, S. C., in the South Carolina, Georgia, Tennessee, and North Carolina areas. ARTHUR E. KALLINICH (center) has been named vice president in charge of new products and new businesses by Veeder-Root, Inc., Hartford, Conn. DONALD J. ECCLESTON (right) has been appointed sales manager for Arnold, Hoffman & Co., Providence, R. I.

ATLANTIC STATES MOTOR LINES, INC., Charlotte, N. C.—Has opened a new terminal in Durham, N. C. . . . **CARBORUNDUM CO.,** Niagara Falls, N. Y.—Has promoted R. C. Straka, Jr., to manager of the company's ceramic-fiber project in Niagara Falls. . . . **CIBA CO., INC.,** New York, N. Y.—Has appointed Dr. E. A. Wolff technical manager of Chemical Specialties Div. . . . **COLTON CHEMICAL CO., DIV. OF AIR REDUCTION CO., INC.,** Cleveland, Ohio—Has named R. L. Hawkins to the technical-service laboratories. He will handle technical service for polyvinyl alcohol. . . . **DANIEL CONSTRUCTION CO.,** Greenville, S. C.—Has opened a new office in Atlanta, Ga. The new office will be headquarters for Daniel Construction Co. of Georgia. . . . **DEXTER CHEMICAL CORP.,** New York, N. Y.—Has named H. C. Wood salesman in New England.

DEWEY & ALMY CHEMICAL DIV., W. R. GRACE & CO., Cambridge, Mass.—Has named C. E. Brookes manager of marketing of the Organic Chemicals Div. . . . **DIAMOND ALKALI CO.,** Cleveland, Ohio—Has appointed Rex Williams, Jr., sales-service representative in Alabama and the northwestern tip of Florida. The Soda Products Div. has named J. E. Davis special sales assistant. H. M. Berthold has been transferred to the division to coordinate branch sales efforts with technical service and plant operations in alkali sales. The company's General Sales & Marketing Planning Dept. has named J. R. McCullough special staff assistant to the director of sales and D. F. Hahlen an analyst in the market-planning group.

DOW CHEMICAL CO., Midland, Mich—Has formed a new group in Coatings Technical Service. L. H. Silvernail is manager, and J. P. Strasser is in charge of the new textile section. . . . **E. I. DU PONT DE NEMOURS & CO., INC., TEXTILE FIBERS DEPT.** Wilmington, Del.—Has formed a tariff section. E. F. Altmaier has been appointed manager of its sales operations. . . . **FABRIONICS CORP.,** Huntington, Long Island, N. Y.—Has named W. P. Crowley sales representative for the



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A billion dollars worth of textile plant design adds up to a lot of experience for the mill owner thinking of building, extending or modernizing his facilities. Lockwood-Greene has already started on its second billion, much of it in the specialized field of woolens & worsteds.

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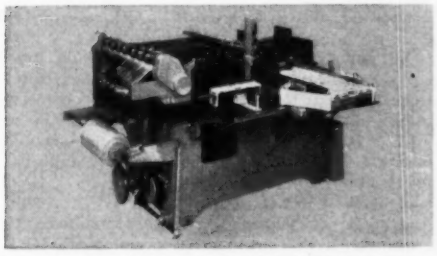
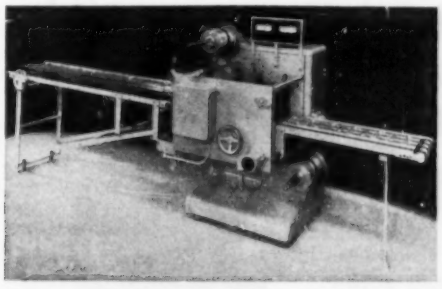
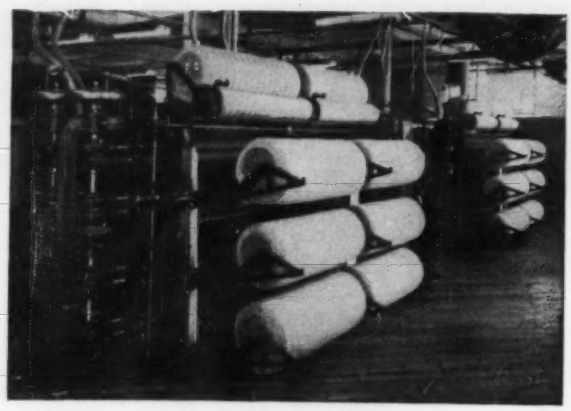


REDUCE COSTS... PROTECT PRODUCTS... IMPROVE DISPLAYS... PROMOTE MULTIPLE SALES with Battle Creek's new Model 850 Automatic Bundler. This machine bundles groups of packages . . . 4, 6, 8, 12 and 24 to a bundle . . . at speeds up to 18 per minute. One operator can easily keep pace with a packaging line as high as 180 per minute. Depending on construction selected, the machine bundles with kraft paper, polyethylene, cellophane and other films; in bundles within 5″ to 12″ long, 4″ to 10″ wide and 1″ to 8″ high. Used for textiles, paper items, drugs, chemicals, cosmetics, food products . . . and/or what have you? **Battle Creek *"Continuous Flow"* Packaging Machines, Inc., Battle Creek, Michigan.**



CHANGE PACKAGE SIZES WITHOUT EXCESSIVE DOWNTIME! Handwheel controls for varying the pouch width, and a simple gear change for varying pouch length, — both made without disturbing the heat-sealing units — provide almost instant adjustability. Thin articles (not necessarily uniform in shape) are pouch packaged between two endless strips of heat-sealing packaging materials at speeds up to 80 per minute. Pouch sizes range from a minimum of 2″ x 2″ x 1/16″ to 27″ x 15″ x 1½″ maximum. The "Flexopaker" is especially applicable for articles in the textile, food, automotive parts, industrial products, hardware or similar industries. High speed "Continuous Flow" performance but with a low price tag. **Battle Creek *"Continuous Flow"* Packaging Machines, Inc., Battle Creek, Michigan.**

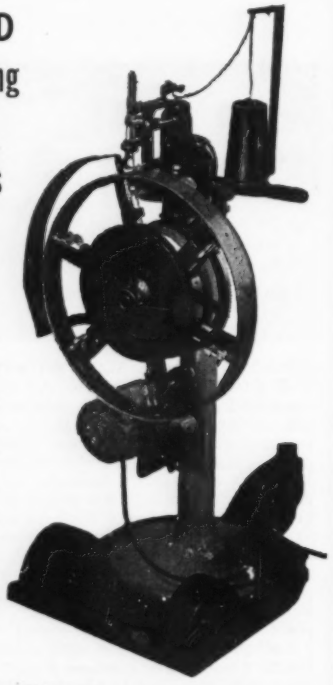


DOUBLE RUB, FOUR BANK TAPE CONDENSER

Built in 48", 60", 72" widths for adaptation to all carding machines. Write for information.

Duesberg-Bosson of America, Inc.
Main Street Jefferson, Mass. P.O. Box 25
CIRCLE 258 ON READER SERVICE CARD

MODEL 31 AD Piece-end Sewing with SAFE Retractable Pins



20" dia. cloth wheel with 6 pairs of pins retracted by cam for automatic cloth stripping. Retracted pins are safe. Heavy duty gear type sewing head. Single chain stitch. Wide range of stitch adjustments. Motor Drive.

DINSMORE MANUFACTURING CO.

Box 267 **Salem, Mass.**

Mid-Atlantic states. Mr. Crowley has organized Thermo Textiles, Inc., Gastonia, N. C., to handle inquiries concerning sales and application of Fabrionics devices. . . . **ROY D. FAIGENBAUM,** Philadelphia, Pa.—Has formed his own organization for the sales and service of knitting machinery, attachments, and accessories. Executive offices are at 7420 Mountain Ave., Melrose Park, Philadelphia.

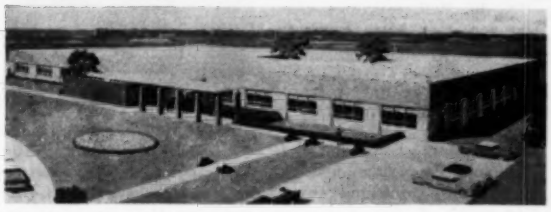
RAY WEST (left) has been named manager of the newly created Industrial Controls Div., Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. PAUL M. OTTO (center) has been named sales representative for wool processors by Putnam Chemical Corp., Beacon, N. Y. Donald Campbell (right) has been named assistant district sales manager of the Providence, R. I., office of American Enka Corp.

FAIRBANKS, MORSE & CO., Chicago, Ill.—Has named G. H. Herrick vice president and general manager of the Electrical Div., with headquarters at Freeport, Ill. F. C. Johnson has been named vice president and general manager of the Scale Div. . . . **W. F. FANCOURT CO.,** Philadelphia, Pa.—Has appointed A. M. Romero Corp., New York, N. Y., its export agent, representing Fancourt in the Carribean area and Central and South America. Fancourt has also announced that J. M. McFarlane has been named sales and technical representative to cover the Middle-Atlantic and Northeastern states. . . . **FIDELITY MACHINE CO., INC.,** Philadelphia, Pa.—Has leased a 10,000-sq.-ft. building in Philadelphia. It will use the building for warehousing knitting-machinery parts and other components.

FIRESTONE TIRE & RUBBER CO., Akron, Ohio—Has bought a manufacturing site at Hopewell, Va. Nylon filament yarn and polypropylene resin will be initially manufactured here. Production is scheduled to start late next summer. The Firestone Plastics Co., Pottstown, Pa., will become the Plastic & Synthetic Fibres Div. and will manage the Hopewell plant. . . . **FLETCHER WORKS,** Philadelphia, Pa.—Has announced that Gordon Hedrick has joined Fletcher Southern, Inc., in a managerial and sales-engineering capacity. . . . **GOODYEAR TIRE & RUBBER CO., CHEMICAL DIV.,** Akron, Ohio—Has named R. H. Hoffman sales representative in the New York district. J. F. Carraher has been named sales engineer in the Rubber & Rubber Chemicals Dept.; and A. K. Hoge has been named special representative in the Hartford, Conn., district. E. G. Ronsick has been appointed sales representative in the Chicago, Ill., district.

HOOKER CHEMICAL CORP., EASTERN CHEMICAL DIV., Niagara Falls, N. Y.—With the Durez Plastics Div. will occupy new sales office in Buffalo, N. Y. Market Development, a new section of the sales department, has been organized with L. S. Bovier as manager. The division has also announced that W. L. Gillespie has been named product manager of organic chemicals. Succeeding Mr. Gillespie is J. S. Walker as manager of sales administration. K. R. Ewing has been named supervisor, trichlorethylene, in the sales department. . . . **HUNGERFORD & TERRY, INC.,** Clayton, N. J.—Has appointed E. Levan, Jr., to its Charlotte, N. C., office. . . . **JAMES HUNTER MACHINE CO.,** North Adams, Mass.—Has transferred engineer Larry Girard from North Adams to its new headquarters in Mauldin, S. C. . . . **INTERCHEMICAL CORP., COLOR & CHEMICALS DIV.,** Hawthorne, N. J.—Has named H. A. Wells assistant sales manager of the Southern district with headquarters in Rock Hill, S. C.

JOHNS-MANVILLE, New York, N. Y.—Is expanding production facilities for manufacturing glass-fiber yarns and roving at its Waterville, Ohio, and Parkersville, W. Va., plants. . . . **KEEVER STARCH CO.,** Greenville, S. C.—Has transferred E. T. Hackworth to Austin, Tex. He will represent the Textile Div. there. . . . **LENOX CHEMICAL CO.,** Providence, R. I.—Has been formed to manufacture wool lubricants, antistatic finishes, and dyeing auxiliaries. . . . **LINDLY & CO.,** Mineola, N. Y.—Has announced that it is now leasing its photo-scanner to tricot knitters. . . . **MINNEAPOLIS-HONEYWELL REGULATOR CO.,** Minneapolis, Minn.—Has named F. P. Kelly manager of manufacturing operations for the Brown Instruments Div., Philadelphia, Pa. . . . **MINNESOTA MINING & MFG. CO.,** St. Paul, Minn.—Is building a new $4.5-million plant in Decatur, Ala., and will manufacture fluorochemicals there.



INTERCONTINENTAL CHEMICAL CORP., New York, N. Y., will build this modern 40,000-sq.-ft. building in Mountainside, N. J. It will house Carbic-Hoechst Corp., Hostachem Corp., and Hostawax. Co.

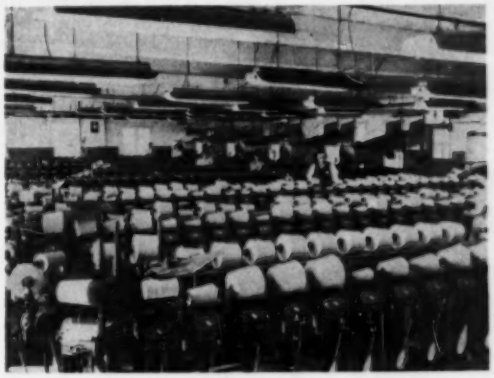
MONSANTO CHEMICAL CO., St. Louis, Mo.—Is building a $10-million research center in St. Louis. The company has also announced that Dr. J. D. Calfee has been promoted to assistant director in charge of the polymer section of the Research & Engineering Div.'s research department. . . . **PITTSBURGH PLATE GLASS CO.,** Pittsburgh, Pa.—Will continue construction on its glass-fiber-yarn plant at Shelby, N. C., until 24 glass furnaces are installed, 8 more than originally planned. . . . **REYNOLDS METALS CO.,** Richmond, Va.—Has appointed C. M. Patterson,, Chicago, Ill., selling agent for Reynolds Reymet-aluminum yarn in eight Midwestern states. . . . **SACO-LOWELL SHOPS,** Boston, Mass.—Has appointed E. C. Lanno director of manufacturing services. H. K. Smyth, who took an indefinite leave of absence June 1 because of his health, has returned to active duty. The company has also announced that it has been appointed exclusive agent in the U. S. and all foreign countries to sell and service Hartford spindles made by Hartford Machine Screw Co. Div., Windsor, Conn.

SOUTHERN SIZING CO., East Point, Ga.—Has appointed W. A. L. Sibley, Jr., to its technical-sales staff. . . . **SOUTHERN RESEARCH INSTITUTE,** Birmingham, Ala.—Has named Dr. W. C. Sheehan head of the textile section. . . . **SUN CHEMICAL CORP.,** New York, N. Y.—Has bought Pennsylvania Color & Chemical Co., Inc., Doylestown, Pa. . . . **TEXIZE CHEMICALS, INC.,** Greenville, S. C.—Has named J. F. Mayer administrative assistant to T. L. Waters, general sales manager of the Consumer Products Div. . . . **TEXTILE MACHINE WORKS,** Reading, Pa.—Has named Kenith Strunk to the newly created post of vice president of research and engineering at its Wyomissing plant. . . . **TORRINGTON CO.,** Torrington, Conn.—Has named G. W. Ging manager of the Seattle, Wash., sales office and D. B. MacLaren manager of the Houston, Tex., sales offce. . . . **VEEDER-ROOT, INC.,** Hartford, Conn.—Has named C. C. Lombardi sales manager for catalog sales, with headquarters in Hartford. Theodore Nelson replaces Mr. Lombardi as Western sales manager, Chicago, Ill. F. J. Swords has been named Eastern sales manager, with headquarters in Hartford. Roger Conant has been named Southern-district sales manager, with offices in Greenville, S. C. . . . **UNION CARBIDE CHEMICAL CO., DIV. OF UNION CARBIDE CORP.,** New York, N. Y.—Has named C. P. McClelland associate director of the technical-service laboratory, Tarrytown, N. Y.

ABBOTT MACHINE CO., Inc.

WILTON, NEW HAMPSHIRE

SOUTHERN SALES AND SERVICE: GREENVILLE, S. C.



AUTOMATIC CONE OR TUBE WINDERS—for winding all types of spun yarns on cones or tubes for Warping, Dyeing, Twisting, Quilling, Knitting or Sales Packages.

SPECIAL WINDING UNITS FOR KNITTING CONES—include a new slub catcher and a new waxing attachment, which uses standard size commercial wax disks.

LARGE PACKAGES—can be wound up to 11½ inches in diameter for use on shuttleless looms and looms that require a cone supply.

MODEL I AUTOMATIC QUILLER—for coarse count cotton, worsted, wool and other spun yarns, delivers full loom bobbins automatically into boxes, onto pinboards, on wide belt conveyor for inspection of bobbins, or into specially made magazines for automatic loom feeder.

MODEL II HIGH SPEED AUTOMATIC QUILLER (10,000 R.P.M.)—for winding fine count cotton and synthetic yarns of either spun or filament construction.

Also delivers full loom bobbins automatically into boxes, onto pinboards or wide belt conveyor for inspection of bobbins.

Under some conditions one operator can run two or three machines and produce upwards of 2500 full loom bobbins per hour.

ABBOTT FULLY AUTOMATIC RADIAL QUILLER, MODEL II—especially designed for flexibility, is very versatile and particularly well adapted for winding numerous small lots of filling.

Winds coarse or fine count cotton, worsted, wool, rubber and various synthetic yarns, either spun or filament.

Automatic delivery of full loom bobbins onto pinboards, wide belt conveyor for inspection of bobbins, into baskets or other type containers.

Automatic delivery of bobbins can also be supplied whereby full loom bobbins from the individual cones and spindles are delivered into separate containers, which is highly desirable for loom finish yarns and the like.

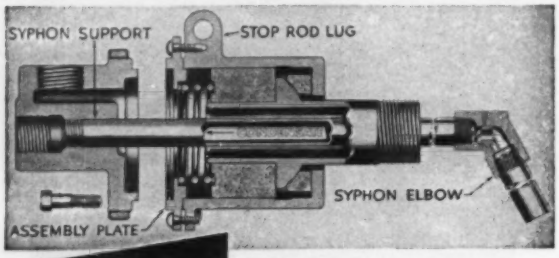
The Radial Quiller can also be equipped with measured yardage attachments to give accurate, uniform bobbin yardage, as required for two-shuttle looms.

A wide range of spindle speeds from approximately 1000 R.P.M. to 10,000 R.P.M. is obtainable.

One operator can run several machines and thus produce up to 2000 loom bobbins, or more, per hour.

TRY THIS on your Dry Cans and 30" Slasher Cylinders

We'll gladly furnish a pair of these units for 90-day obligation-free trial in your mill. The Type SB2P is self-supporting, completely packless, needs no lubrication or adjustment. The Johnson Syphon Elbow permits the use of two straight pipes instead of an unwieldy curved syphon pipe, is hinged to pass right through the joint.



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First in the Textile Industry

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Shows self-supporting Johnson Joints for all needs . . . on print cans, calenders, compressive shrinkage ranges, big 5' and 7' cotton slashers, dry cans, etc.

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CIRCLE 260 ON READER SERVICE CARD

Reliable Accuracy*

G. S. SPEED INDICATORS & HAND TACHOMETERS

For Motors - Shafts - Spindles - Looms Turbines. Textile and Power Plants

*1% ACCURACY FOR ANY RANGE FROM 30 TO 1000,000 RPM OR SURFACE SPEED

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West Coast Office: SCHERR-TUMICO CO. 2337-39 West Olympic Blvd. • Los Angeles 19, Cal.

NEWS ABOUT MEN

Earl Wesley Ashley has been promoted to assistant overseer of weaving at Callaway Mills' Manchester Plant, Manchester, Ga.

Gene Bartha has been elected assistant vice president of M. Lowenstein & Sons, Inc., New York, N. Y.

A. W. Bell, executive vice president of American & Efird Mills, Inc., Mt. Holly, N. C., has been elected president of the Combed Yarn Spinners Association, Inc.

John Bell has been named production superintendent of Bishopville Finishing Co., Bishopville, S. C.

Charles Bernstein has been elected an assistant vice president of Rock Hill Printing & Finishing Co., Rock Hill, S. C.

Stanley C. Bodell has been elected president of American Textile Co., Inc., Pawtucket, R. I.

L. E. Bowen, secretary and treasurer of Tifton Cotton Mills, Tifton, Ga., has been elected president of the Carded Yarn Association.

T. B. Davenport has been appointed technical superintendent at Gayley Mills Corp., Marietta, S. C.

H. J. Dekker has been named general manager of Gerrish Milliken Mills, Pendleton, S. C.

Stiles S. Dixon, Jr., executive vice president of Mooresville Mills, Mooresville, N. C., has been promoted to a new assignment at Burlington Industries' headquarters, Greensboro, N. C.

CURTIS H. EDWARDS, chairman of the production-management board and superintendent of boarding for Hanes Hosiery Mills Co., Winston-Salem, N. C., has retired after 35 years of service.

J. Franklin Foss has been promoted to quality-control supervisor at Callaway Mills Co.'s Milstead, Ga., plant.

Dr. William A. Frank has joined American Thread Co., New York, N. Y., as a senior systems engineer.

Dolan Frye has been promoted to assistant superintendent of Mills No. 4 and 6 of Wiscasset Mills Co., Albemarle, N. C.

Richard S. Graham has been elected assistant vice president of M. Lowenstein & Sons, Inc., New York, N. Y.

L. David Garratt has been named head of the cotton division of American Thread Co., New York, N. Y.

HENRY E. BRADFORD, ROBERT F. GREGORY, and FRANKLIN P. JONES (left to right) have been appointed to the board of directors of Bradford-Norak, Inc., Bennington, Vt.

WILLIAM L. SUTHERLAND has been named director of research and product development at Hyde Park Mills, Covington, Tenn.

Alvin A. Gerlach has been appointed director of designing and styling of the Men's and Children's Hosiery Div. of Burlington Hosiery Co., Asheboro, N. C.

S. L. Hagan is retiring as vice president in charge of sales for M. Lowenstein & Sons, Inc., New York, N. Y. He will serve the company as a consultant.

Arthur Hale has been elected assistant vice president of M. Lowenstein & Sons, Inc., New York, N. Y.

Gordon Hanes, president of Hanes Hosiery Mills Co., Winston-Salem, N. C., has been appointed chairman of the Women's Hosiery Advisory Committee of the National Association of Hosiery Manufacturers and a member of the association's executive committee.

Clark Hayden has been appointed general manager of Waumbec Dyeing & Finishing Co., Manchester, N. H.

H. R. Hoke has been named superintendent of Aragon Mills, Aragon, Ga.

W. T. Holliday has been promoted to supervisor of fabric development at Riegel Textile Corp.'s Ware Shoals, S. C., division.

W. G. Humphrey has been named plant manager of Gayley Mills Corp., Marietta, S. C.

J. C. Lassiter has been appointed director of Southern operations for Artistic Weaving Co., Pompton Lakes, N. J.

Gabriel Levine has been elected an assistant vice president of M. Lowenstein & Sons, Inc., New York, N. Y.

Max L. Levinson has been elected an assistant vice president of M. Lowenstein & Sons, Inc., New York, N. Y.

Dale Kern has been named quality-control supervisor at Riegel Textile Corp.'s Ware Shoals, S. C., division.

Joe Mandelert has been named general manager of Chippewa Falls Woolen Mill Co., Chippewa Falls, Wisc.

Charles Marshall has been named overseer at Mill No. 2 of Wiscasset Mills Co., Albemarle, N. C.

John M. Morrow has been named assistant superintendent of Mills No. 1 and 2 of Wiscasset Mills Co., Albemarle, N. C.

T. B. Nielson has been transferred to the New York, N. Y., offices of J. P. Stevens & Co., Inc., to head activity in development and coordination of fabrics for men's wear. He had been in the company's northern administrative headquarters, North Andover, Mass.

Jules I. Richie has been elected assistant vice president of M. Lowenstein & Sons, Inc., New York, N. Y.

L. H. Ricketts has been elected to the newly created position of executive vice president of Lockport Felt Co., Newfane, N. Y.

J. H. Robbins has been appointed superintendent of United Merchants & Manufacturers' Seminole Mills, Clearwater, S. C.

Harry S. Shorey has been elected an assistant vice president of M. Lowenstein & Sons, Inc., New York, N. Y.

William F. Sullivan, Belmont, Mass., has been elected president of the Northern Textile Association.

Joseph L. Turner has been named superintendent of Bur-

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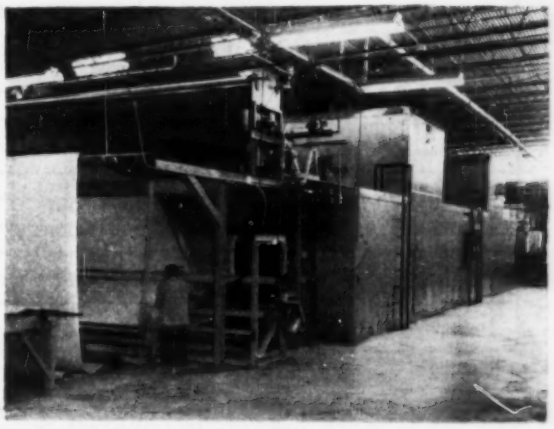

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lington Industries' Balfour Hosiery Co., Asheboro, N. C. He had been plant superintendent of Burlington's Rockwood Hosiery Co., Rockwood, Tenn.

Maxwell A. Warshaw has been elected a vice president and director of Packard Mills, Inc., Webster, Mass.

Jackson Lee Weldon has been named superintendent of Union-Buffalo Mills, Union, S. C. He had been with Seminole Mills, Clearwater, S. C.

J. E. Whatley, Jr., has been named superintendent of Gayley Mills Corp., Marietta, S. C.

W. Bernard Willingham is the new president of Ohio Falls, Inc., Louisville, Ky.

ELLIOTT J. JOHNSTON has been appointed chief stylist at Roxbury Southern Mills, Inc., Chattanooga, Tenn.

Textile World

OBITUARY

John T. Carroll, Sr., 85, retired manager of Southern Mills, Atlanta, Ga.

Percy W. Ellis, 70, formerly with Enterprise Cotton Mills, Augusta, Ga.

Russsell Watson Frye, 53, superintendent of the spinning department of Spindale Mills, Spindale, N. C.

Balus Lee Gaillard, 69, retired overseer at Utica-Mohawk Mills, near Seneca, S. C.

E. Stanley Gary, Jr., part owner of James A. Gary & Son, Alberton, Md.

Arthur M. Gordy, 77, retired superintendent of the former Ingram Co., Nashville, Tenn.

F. E. Grier, 59, president of Abney Mills, Greenwood, S. C., and chairman of the board of Erwin Mills, Durham, N. C.

Marion W. Heiss, 61, a director of Cone Mills Corp., Greensboro, N. C. and former vice president of the corporation.

Max Karger, 88, president of Eagle Knitting Mills, Inc., Milwaukee, Wisc.

Frank Egan Matthews, 52, an executive for Burlington Industries, Inc., Greensboro, N. C.

Vivian C. McCollom, 57, president of Allentown Converting Works, Allentown, Pa.

E. Lawrie Mifflin, 76, president of Mifflin & DiOttavio, Inc., Philadelphia, Pa.

Thomas F. Robinson, 55, vice president of the Greige Goods Div., Russell Mfg. Co., Alexander City, Ala.

A. J. Sidler, executive vice president of Blue Bird Mfg. Co., Inc., York, Pa.

Col. Elliott White Springs, 63, president of Springs Mills, Inc., Lancaster, S. C.

Edwin A. Stephens, 70, founder of Rocky Mountain Textile Mills, Inc., Denver, Colo.

Mrs. Ruth Walker, 84, chairman of the board of directors of Monroe Cotton Mills, Monroe, Ga.

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Of Textile World published monthly at Albany, New York for October 1, 1959.

1. The names and addresses of the publisher, editor, managing editor, and business manager are: Published by McGraw-Hill Publishing Company, Inc., 330 West 42nd Street, New York 36, N. Y.; Editor, Prentice M. Thomas, 330 West 42nd Street, New York 36, N. Y.; Managing editor, Louise E. Wilie, 330 West 42nd Street, New York 36, N. Y.; Business manager, Thomas Macaluso, 330 West 42nd Street, New York 36, N. Y.

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INDEX TO ADVERTISERS

An * indicates advertisers who have essential technical information on their products in the **IMPORTANT 1959 FACT FILE**

*Abbott Machine Co..... 193
*Acme Steel Co..... 28
Alliance Chemical Corp... 103
Allied Chemical Corp.
*General Cemical Div.... 92
National Aniline Div.
Fiber Sls. & Service... 149
National Aniline Div..... 27
Semet-Solvay Petrochemical Div. 96
Solvay Process Div..... 121
*Adolff, Emil 171
Allis Co., Louis..... 44
American Moistening Co... 24
American Viscose Corp.... 188
189
Anheuser-Busch, Inc. 113
Armstrong Cork Co..36, 37 137
Arnold, Hoffman & Co., Inc. 111
Atlas Electric Devices Co. 22

Barber-Colman Co. 181
Battle Creek Packaging Machines, Inc. 191
Beaunit Mills, Inc., Fibers Div. 155
Borne Chemical Co., Inc... 98
Bristol Industrial Development Board 187
*Butterworth & Sons Co., H. W. 19

*Carbic-Hoechst Corp..... 74
*Carroll & Co., J. E..... 176
Celanese Corp. of America 152
153
*Clinton Corn Processing Co. 128
*Cocker Machine & Foundry Co. 34
Container Corp. 163
*Continental-Diamond Fiber Div.
The Budd Co..... 184
Corn Products Sales Co... 135
Curtis & Marble Machine Co. 126

*Dalton Sheet Metal Co., Inc. 195
Dayton Industrial Products Co. 167
Dayton Rubber Co.....42, 43
Delta Air Lines..... 184
Diamond Crystal Salt Co. 76, 77
Diehl Mfg. Co.....2nd Cover
Dinsmore Mfg. Co..... 192
*Dixon Corp. 33
Draper Corporation 40, 41
Duesberg-Bosson of America, Inc. 192

DuPont de Nemours & Co., E. I.
*Electrochemicals Dept... 118
119
*Textile Fibers "General" 150, 151

Eastman Chem. Prods. Inc. Chem. Div. 127
Eaton Mfg. Co. Dynamatic Div. 156

Fabrionics Inc. 186
Fairbanks Co. 166
Fairbanks-Morse 170
Fairtex Corp. 146
*Foster Machine Co..... 159
Foxboro Co., The..... 90
Franklin Process Div. of Indian Head Mills 116, 117

Galileo Officine 71
Garland Mfg. Co..... 185
Gaston County Dyeing Machine Co. 112
*General Dyestuff Co., Div. General Aniline & Film Corp. 82
General Tire & Rubber Co. Chemical Div. 115
*Gessner Co., David..... 100
Gherzi Textil Organisation 183
Goodyear Tire & Rubber Co. 16
Chemical Div. 23
*Guider Specialty Co..... 178
Gulf Oil Corp..... 165

*Harshaw Chemical Co..... 125
Haskell-Dawes Mach. Co., Inc. 180
Hercules Powder Co..... 102
Hooker Chemical Corp..... 123
Hubinger Co., The..... 141
Hyatt Bearings Div. General Motors Corp... 45

Ideal Industries, Inc..... 21
Interchemical Corp. Color & Chemical Div.78, 79
*Ives Co., L. T..... 161

Jenkins Bros. 105
*Jenkins' Sons Inc., M. W. 185
*Johnson Corp., The..... 194

Keever Starch Co..... 139
Kidde Textile Machinery Corp. 144, 145
Knitworld Designs Inc.... 177

Leesona Corp. 29, 38, 39
Lestoil, Inc. 129
Link-Belt Co. 25
Livermore Corp., H. F... 130
*Lockwood Greene 191
*Loper Co., Ralph E..... 196
Louden Machy. Co., The.. 190

McBride Co., Inc., Ed. J. 196
McLean Trucking Co..... 174
Meese Inc. 194
Mezzera, S. p. A..... 132
Minneapolis-Honeywell ... 110
Micro Switch Div..... 30
Monsanto Chemical Co. Inorganic Div. 106, 107
*Plastic Div. 94
Morrison Machine Co. 3rd Cover
*Mount Hope Machinery Co. 20

National Aniline Div.
Allied Chem. Corp..... 27
Fiber Sls. & Service Div. 149
National Starch & Chemical Corp. 88

Paramount Textile Machy. Co. 154
*Perfecting Service Co..... 176
*Perkins & Son, B. F..... 108
Pneumafil Corp. 35
Putnam Chemical Co..... 109

Raybestos-Manhattan, Inc. Manhattan Rubber Div. 120
Ridge Tool Co..... 124
Roberts Co. 12, 13
*Rohm & Haas Co..... 73

Scherr Co., George..... 194
Scholler Brothers, Inc..... 80
Schweiter Ltd. 72
Semet-Solvay Petrochemical Div.
Allied Chemical Corp... 96
Simco Co. 178
*SKF Industries, Inc..... 26
Smith Corp., A. O..... 15
*Sonoco Products Co..... 32
Steel Heddle Mfg. Co..... 14
*Supreme Knitting Mach. Co., Inc. 179

*Taylor Co., Halsey W.... 180
Taylor, Stiles & Co..... 183
Tennant Co., G. H..... 172
Texaco, Inc. .....4th Cover
*Textile Machine Works... 48
*Tompkins Bros. Co..... 182

Unionmatex Textilmaschinen-Union GMBH .. 31
Uster Corp. 142, 143

*Veeder-Root Inc. 173
*Verona Dyestuffs 75
Visking Corp. 174, 175

Whitin Machine Works.46, 72
169
*Wiegand Co., Edwin L... 124
Wildman Jacquard Co.... 11
Wolf & Co., Jacques..... 114
Wood's Sons Co., T. B... 168

CLASSIFIED ADVERTISING
F. J. Eberle, Business Mgr.

EMPLOYMENT OPPORTUNITIES 198

PROPERTY For Sale 198

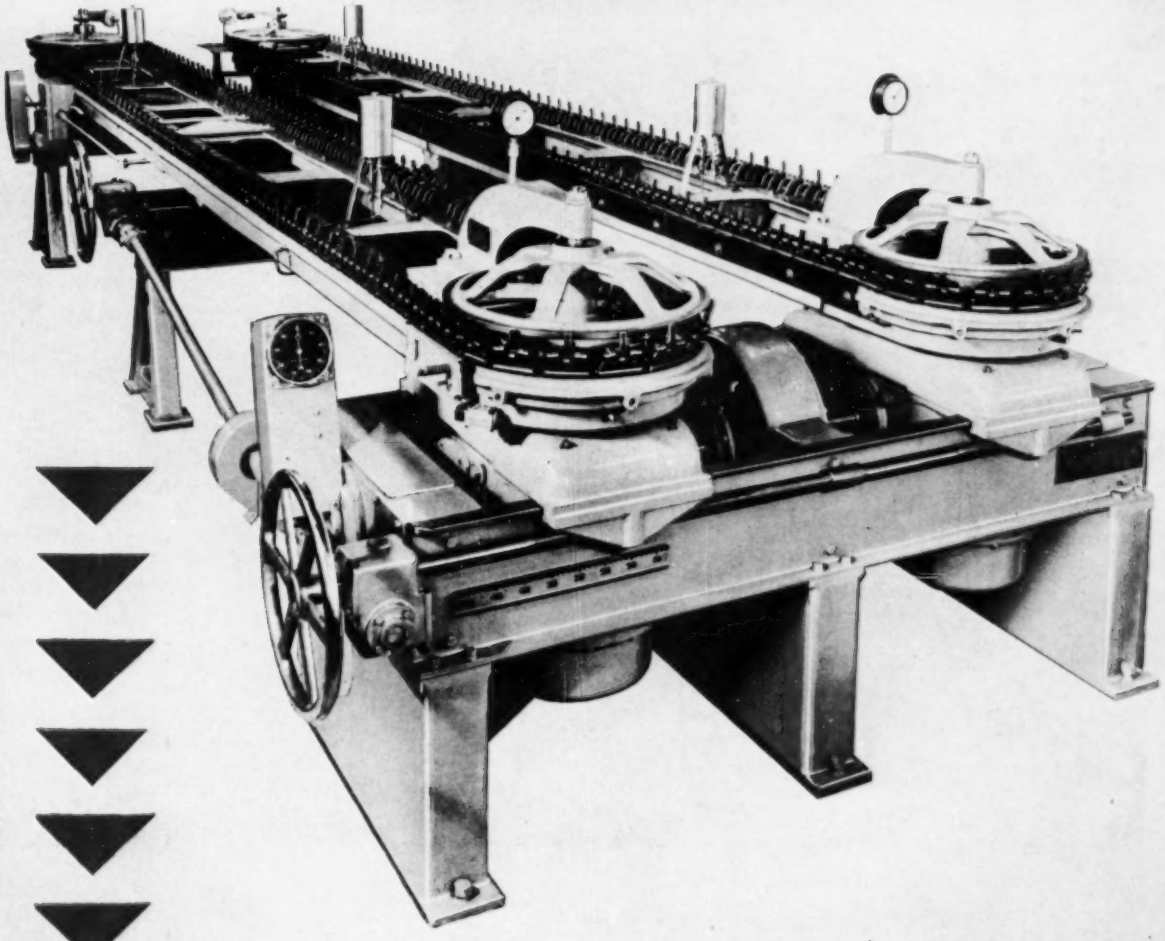
EQUIPMENT (Used or Surplus New) For Sale 198-202

WANTED Equipment 200

ADVERTISERS' INDEX

Advanced Textile Company.....200
American Air Compressor Corp..200
Bialek & Company, Theodore....202
Blank Company, Inc., A. & M....200
Fitzgerald, James E.....200
Industrial Products of America..199
IPA Southern Inc.....199
Machinery Sales Corporation.....198
Mar-Day Textiles 201
McDowell Associates, Inc.....201
McKittrick Co., Frank G. W.....199
Mohawk Valley Knitting Machinery Co. 202
Pennsylvania Spool & Equipment Co. 200
Perry Equipment Corporation....201
Rabinowitz & Sons, William.....201
Raymond Service, Inc., Charles P.198
Republic Textile Equipment Co...198
Roberts Company 202
Southern Textile Works.....201
Stave & Kessler.....200
Textile Auxiliaries, Inc.....202
Whitehead, Philip 199

This index is published as a convenience to the reader. Every care is taken to make it accurate, but Textile World assumes no responsibility for errors or omissions.



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